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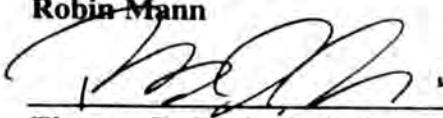
**Semiannual Monitoring Report:**  
**First Semiannual Event 1998**  
***Houston Wood Preserving Works***  
***Houston, Texas***

July 16, 1998

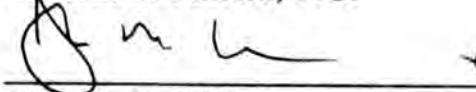
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**1.0****INTRODUCTION****1.1****BACKGROUND**

On March 3 and 4, 1998, Environmental Resources Management (ERM) conducted ground water sampling activities at Southern Pacific Transportation Company's Houston Wood Preserving Works (HWPW) site, located at 4910 Liberty Road, Houston, Texas (Figure 1-1). This semiannual sampling event included the on-site wells and piezometers associated with a closed surface impoundment (TNRCC Permit Unit No. II.B.1) as described in RCRA Permit No. HW-50343-000 and associated Compliance Plan (CP-50343), both issued by the Texas Natural Resource Conservation Commission (TNRCC). The sampling event, analytical data, and this data evaluation report represent the first semiannual monitoring period for 1998 (i.e., January 1 through June 30) and fulfill the semiannual reporting requirements described in Compliance Plan Section VII.B.2.

**1.2****REPORT CONTENT AND ORGANIZATION**

Section VII.B.2 of the Compliance Plan (CP) requires that a specific list of items be included in each Semiannual Report. As such, each item listed below is addressed by number in Section 2.0 of this report. As of June 30, 1998, a recovery system had not been installed at this facility. Therefore, in the few instances where a provision refers to a recovery system (i.e., items 5, 7, and 11), a notation was made in the text and the items, as they relate to recovery wells, were not addressed in this report. The following items are required for the Semiannual Report, pursuant to CP Section VII.B.2:

1. A narrative summary of the evaluations made in accordance with CP Sections V, VI, and VII for the preceding six-month period. These periods shall be January 1 through June 30 and July 1 through December 31;
2. The results of the chemical analyses, submitted in a tabulated format in a form acceptable to the Executive Director, which clearly indicates each parameter that exceeds the Ground Water Protection Standard (GWPS). Copies of the original laboratory report for chemical analyses showing detection limits and quality control and quality assurance data shall be provided if requested by the Executive Director;
3. Tabulation of all water level elevations (relative to mean sea level), depth to water measurements, and total depth of well measurements collected since the data that was submitted in the previous semiannual report;
4. Potentiometric surface maps showing the elevation of the water table at the time of sampling;

5. If a recovery system is installed, potentiometric surface maps showing delineation of the radius of influence, minimum and maximum gradient within the hydrologically influenced area, and the direction of ground-water flow gradients outside the radius of influence;
6. A notation of the presence or absence of NAPLs, both light and dense phases, in each well during each sampling event since the last event covered in the previous semiannual report and tabulation of depth and thickness of NAPLs, if detected;
7. If a recovery system is installed, monthly tabulations of quantities of recovered ground-water and NAPLs (if encountered), and graphs of weekly recorded flow rates versus time for the recovery wells during each quarter;
8. Tabulation of all data evaluation results pursuant to Section VI.D and status of each well listed on CP Table III with regard to compliance with the corrective action objectives and compliance with the Ground-water Protection Standards;
9. Maps of the contaminated area depicting concentrations of naphthalene, acenaphthene, and total benzene, toluene, ethylbenzene, and xylenes (BTEX) as isopleth contours;
10. An updated schedule summary as required by Section XI.A;
11. Summary of any changes made to the monitoring/corrective action program and a summary of recovery well inspections, repairs, and any operational difficulties;
12. Recommendation for any changes; and,
13. Any other items requested by the Executive Director.

**2.0**

## **FIRST SEMIANNUAL GROUND WATER SAMPLING EVENT**

This section contains a discussion of each of the Semiannual Report items required by CP Section VII.B.2.

**2.1**

## **NARRATIVE SUMMARY OF FIRST SEMIANNUAL ACTIVITIES**

CP Section VII.B.2.a requires a narrative summary of evaluations completed in accordance with CP Sections V, VI, and VII. Section V relates to the Corrective Action Program in place for the permitted unit. Section VI relates to the Ground Water Monitoring Program designed to evaluate the effectiveness of the Corrective Action Program. Section VII includes provisions for amending the Corrective Action Program and/or Compliance Plan.

**2.1.1**

### ***Corrective Action Program***

Existing wells were sampled to evaluate the extent of affected ground water in the A-Transmissive Zone (A-TZ) and the B-Transmissive Zone (B-TZ). The definitions of the A-TZ and B-TZ are consistent with the UTZ and STZ, respectively, as defined in CP Provision I.A.

- A-TZ refers to the first sand unit encountered at approximately 35 feet above mean sea level (msl), averaging 6 to 8 feet in thickness.
- B-TZ refers to the second sand unit encountered at approximately 15 feet above msl, averaging 8 to 10 feet in thickness.

Existing monitoring wells in the A-TZ, designated by function in CP Table III (Appendix A), include the Corrective Action Observation (CAO) wells MW-04, MW-05, MW-07, MW-08, and MW-09, and the Point of Compliance (POC) wells MW-01A, MW-02, MW-03, MW-10A, and MW-11A. Existing monitoring wells in the B-TZ include the POC wells MW-10B and MW-11B, and the POC piezometers P-10, P-11, and P-12.

**2.1.2**

### ***Ground Water Monitoring***

ERM personnel completed monitoring activities at the site on March 3 and 4, 1998. The 15 A-TZ and B-TZ wells and piezometers listed in Section 2.1.1 were located and inspected in preparation for the sampling event. Ground water sampling was performed using procedures outlined in a U.S. EPA document titled *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures* (EPA/540/S-95/504) published in April 1996. Purging and sampling were performed using a low-flow pump which drew a sample directly from the screened interval of the well.

Dedicated polyethylene tubing placed in the well during the previous sampling event was used for this sampling event. A Master-Flex<sup>\*</sup> peristaltic pump was placed next to each well during sampling. Using a one-foot section of disposable silicon tubing placed around the pump head and attached to the dedicated polyethylene tubing, ground water was pumped from the screened interval of the well at a flow rate of approximately 0.5 L/min. A one-liter Pyrex<sup>\*</sup> measuring cup was used to collect purge water in one-liter increments to evaluate field parameters, including temperature, pH, specific conductivity, and turbidity. When three successive readings indicated that the field parameters had stabilized, the well was sampled. A compilation of recorded field parameters is included in Appendix B.

For each well, one 250-mL polyethylene bottle, two 40-mL glass volatile organic compound bottles, and two 1000-mL amber glass semivolatile organic compounds bottles were filled directly from the sample tubing. The bottles, which had been preserved previously by the lab, were sealed and packed in coolers with sufficient ice to maintain a sample temperature of approximately 4° C. The coolers were delivered to Pace Analytical Services, Inc. of Houston, Texas for analysis. Chain-of-Custody (COC) forms were completed and kept with their respective samples. Copies of the analytical data and COCs are included in Appendix C.

## 2.2

### ***ANALYTICAL RESULTS***

The results of the chemical analyses performed on the A-TZ and B-TZ ground water samples collected during the first semiannual sampling event of 1998 are summarized in Tables 2-1 and 2-2, respectively. Those compounds reported by the laboratory to be above the GWPS are indicated in bold italics on the tables. The CP sets the GWPS at the practical quantitation limit (PQL) for each of the compounds analyzed.

## 2.3

### ***WATER LEVEL AND TOTAL DEPTH MEASUREMENT***

Because low-flow sampling procedures were utilized for this sampling event, it was important to reduce disruption of the water column to the extent practical prior to sampling. To accomplish this, water levels were measured on March 3 and 4, 1998, prior to sampling, using a Solinst<sup>\*</sup> Model 101 electronic water level meter capable of producing measurements to a depth of 100 feet with an accuracy of 0.01 feet. Since the meter came into contact with only the upper surface of the water column, disruption of the water column was reduced. No non-aqueous phase liquid (NAPL) was noted on the probe at any of the wells measured. Total depth measurements were collected following ground water sampling in accordance with the methodology described in EPA's low-flow guidance (U.S. EPA, April 1996) which suggests that a probe be lowered gently through the water column to the bottom of the well following sample collection.

Table 2-3 summarizes the results of the depth-to-water and total well depth measurements.

2.4

#### **POTENTIOMETRIC SURFACE MAPS**

The ground water elevation data described in Section 2.3 were used to create potentiometric surface maps of the A-TZ and B-TZ. The equipotential lines were generated by applying a linear Kriging algorithm to the data. Figures 2-1 and 2-2 show potentiometric surface maps of the A-TZ and B-TZ, respectively.

2.5

#### **POTENTIOMETRIC SURFACE MAPS FOR RECOVERY SYSTEM**

As of June 30, 1998, no recovery system had been installed at the closed surface impoundment. Therefore, this item is not addressed herein.

2.6

#### **NON-AQUEOUS PHASE LIQUIDS**

The wells and piezometers were examined for the presence of light NAPLs before low-flow sampling and dense NAPLs after low-flow sampling was completed, in order to minimize disruption of the water column prior to sampling. The low-flow sampling method resulted in little or no drawdown. Accordingly, dense NAPL measurements, if present, would not have been significantly affected by prior ground water sample collection. An MMC<sup>®</sup> Model D-240 oil/water interface probe was used to measure for light and heavy NAPLs. No NAPLs were detected in any of the wells sampled during this semiannual event.

2.7

#### **NAPL RECOVERIES**

As of June 30, 1998, no recovery system had been installed at the closed surface impoundment. Therefore, this item is not addressed herein.

2.8

#### **ANALYTICAL DATA EVALUATION**

CP Section VI.D describes two methods which may be used to determine the compliance status of a given well. The analytical results may be either directly compared to the GWPS (CP Table I; included in Appendix A herein), or statistically compared to the GWPS using the 99% significance level of the t-distribution. Table 2-4 shows the results of a direct comparison of data from the second semiannual sampling event to the GWPS. Wells and piezometers were considered to be compliant if each of the constituents listed in CP Table I was reported at a concentration less than or equal to the Concentration Limit (i.e., the GWPS). Conversely, wells and piezometers were considered non-compliant if one or more constituents were reported at concentrations above the Concentration Limit.

**2.9**

### **BTEX, ACENAPHTHENE, AND NAPHTHALENE ISOPLETHS**

The concentration contours of these constituents were prepared using the data presented in Table 2-3. The contours were generated using a logarithmic Kriging method. Locations with reported non-detects were assigned a value equal to one-half of the reported detection limit.

A-TZ and B-TZ BTEX concentrations measured during the first semiannual sampling event of 1998 are illustrated in Figures 2-3 and 2-4, respectively. Similarly, acenaphthene and naphthalene isopleths are provided in Figures 2-5 through 2-8.

**2.10**

### **UPDATED COMPLIANCE SCHEDULE**

An updated compliance schedule is included as Appendix D of this report.

**2.11**

### **SUMMARY OF CHANGES MADE TO THE MONITORING/CORRECTIVE ACTION PROGRAM AND SUMMARY OF RECOVERY WELL INSPECTIONS AND MAINTENANCE**

A change was made to the NAPL and total well depth measurement protocol. Instead of obtaining all measurements before sampling, NAPL and depth to water were measured prior to low-flow sampling and DNAPL and total well depth were measured after sampling to reduce disturbance of the water column. No recovery wells or ground water recovery system is present on site. Accordingly, there were no recovery well inspections, repairs, or operations conducted. However, the POC and CAO wells were inspected twice during the semiannual monitoring period. Based on the results of the inspections, no repairs or corrective actions were warranted. A summary of the well inspections will be included in the 1998 Annual Report.

**2.12**

### **RECOMMENDATIONS FOR CHANGES**

Beginning with the second 1998 ground water sampling event, ground water samples required pursuant to the Compliance Plan will be collected utilizing dedicated polytetrafluoroethylene (PTFE) tubing. The PTFE tubing will be dedicated in each well, and will be affixed to disposable silicon tubing at the surface in order to collect samples using low-flow pumping.

In addition, as described in a letter to the TNRCC dated June 1, 1998, it is proposed that the following sequence of activities be continued in the second 1998 sampling event.

- measure for light non-aqueous phase liquid (LNAPL) measurements;
- complete purging and sampling; and
- measure for DNAPL and total well depth.

**2.13**

***OTHER REQUESTED ITEMS***

To date, no other items have been requested by the Executive Director.

TABLE 2-1  
Summary of Analytical Results for the A-Transmissive Zone (A-TZ)

First Semiannual Sampling Event, 1998  
Houston Wood Preserving Works  
Houston, Texas

Analyte	PQL & GWPS	MW-01A 3-3-98	MW-02 3-3-98	MW-03 3-3-98	MW-04 3-3-98	MW-05 3-4-98	MW-07 3-4-98	MW-08 3-4-98	MW-09 3-4-98	MW-10A 3-3-98	MW-11A 3-3-98
Benzene	0.005	<b>0.011</b>	ND	ND							
Chlorobenzene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	0.005	<b>0.010</b>	ND	ND							
Toluene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (total)	0.005	<b>0.024</b>	ND	ND	ND	<b>0.007</b>	ND	ND	ND	ND	<b>0.006</b>
Acenaphthene	0.010	<b>0.094</b>	<b>0.026</b>	<b>0.060</b>	ND	ND	ND	<b>0.032</b>	ND	ND	<b>0.063</b>
Acenaphthylene	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethoxy)methane	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	0.010	<b>0.059</b>	<b>0.020</b>	<b>0.044</b>	ND	ND	ND	<b>0.022</b>	ND	ND	<b>0.017</b>
Di-n-butylphthalate	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-o-cresol	0.050	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	<b>0.023</b>
2,6-Dinitrotoluene	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Diphenylhydrazine	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	0.010	<b>0.068</b>	<b>0.020</b>	<b>0.052</b>	ND	ND	ND	<b>0.023</b>	ND	ND	<b>0.023</b>
2-Methylnaphthalene	0.010	<b>0.041</b>	ND	ND	ND	ND	ND	<b>0.018</b>	ND	ND	ND
Naphthalene	0.010	<b>0.320</b>	<b>0.031</b>	ND	ND	ND	ND	<b>0.300</b>	ND	ND	ND
Nitrobenzene	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Nitrophenol	0.050	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	0.050	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	0.010	<b>0.028</b>	ND	ND							
Phenol	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES

- All values reported in mg/L. ND - Not detected at the Practical Quantitation Limit (PQL).
- PQL - Practical Quantitation Limit as defined on Table I of the Compliance Plan, and determined by the analytical methods of the EPA Publication SW-846, *Test Methods for Evaluating Solid Waste*, 3rd ed., November 1986, and as listed in the July 8, 1987 edition of the *Federal Register* and later editions. The PQL is the Ground Water Protection Standard (GWPS).
- Bold-italic indicates values reported above the Ground Water Protection Standard.

TABLE 2-2  
Summary of Analytical Results for the B-Transmissive Zone (B-TZ)

First Semiannual Sampling Event, 1998  
Houston Wood Preserving Works  
Houston, Texas

Analyte	PQL & GWPS	MW-10B 3-3-98	MW-11B 3-3-98	P-10 3-4-98	P-11 3-4-98	P-12 3-4-98
Benzene	0.005	ND	ND	ND	ND	ND
Chlorobenzene	0.005	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.005	ND	ND	ND	ND	ND
Methylene chloride	0.010	ND	ND	ND	ND	ND
Ethylbenzene	0.005	ND	ND	ND	ND	ND
Toluene	0.005	ND	ND	ND	ND	ND
Xylene (total)	0.005	ND	ND	ND	ND	ND
Acenaphthene	0.010	<i>0.018</i>	ND	<i>0.089</i>	<i>0.023</i>	ND
Acenaphthylene	0.010	ND	ND	ND	ND	ND
Anthracene	0.010	ND	ND	ND	ND	ND
Benzo(a)anthracene	0.010	ND	ND	ND	ND	ND
Benzo(a)pyrene	0.010	ND	ND	ND	ND	ND
bis(2-Chloroethoxy)methane	0.010	ND	ND	ND	ND	ND
2-Chloronaphthalene	0.010	ND	ND	ND	ND	ND
Chrysene	0.010	ND	ND	ND	ND	ND
Dibenzofuran	0.010	ND	ND	<i>0.038</i>	ND	ND
Di-n-butylphthalate	0.010	ND	ND	ND	ND	ND
2,4-Dimethylphenol	0.010	ND	ND	ND	ND	ND
4,6-Dinitro-o-cresol	0.050	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	0.010	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	0.010	ND	ND	ND	ND	ND
1,2-Diphenylhydrazine	0.010	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	0.010	ND	ND	ND	ND	ND
Fluoranthene	0.010	ND	ND	ND	ND	ND
Fluorene	0.010	<i>0.012</i>	ND	<i>0.060</i>	<i>0.014</i>	ND
2-Methylnaphthalene	0.010	ND	ND	<i>0.018</i>	ND	ND
Naphthalene	0.010	ND	ND	<i>5.800</i>	ND	ND
Nitrobenzene	0.010	ND	ND	ND	ND	ND
p-Nitrophenol	0.050	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	0.010	ND	ND	ND	ND	ND
Pentachlorophenol	0.050	ND	ND	ND	ND	ND
Phenanthrene	0.010	ND	ND	<i>0.028</i>	ND	ND
Phenol	0.010	ND	ND	ND	ND	ND
Pyrene	0.010	ND	ND	ND	ND	ND

NOTES

- 1) All values reported in mg/L ND - Not detected at the Practical Quantitation Limit (PQL).
- 2) PQL - *Practical Quantitation Limit* as defined on Table I of the Compliance Plan, and determined by the analytical methods of the EPA Publication SW-846, *Test Methods for Evaluating Solid Waste*, 3rd ed., November 1986, and as listed in the July 8, 1987 edition of the *Federal Register* and later editions. *The PQL is the Ground Water Protection Standard (GWPS)*.
- 3) Bold-italic indicates values reported above the Ground Water Protection Standard

TABLE 2-3  
Water Level and Total Depth of Well Measurements

First Semiannual Sampling Event, 1998  
Houston Wood Preserving Works  
Houston, Texas

Well ID	Top of Casing Elevation (msl)	Depth to Water (ft TOC)	Water Surface Elevation (msl)	Total Depth of Well as Measured (ft TOC)	Total Depth as Logged (ft TOC) *
MW-01A	47.95'	2.87'	45.08'	19.65'	20.20'
MW-02	48.03'	2.88'	45.15'	18.52'	20.30'
MW-03	48.55'	3.37'	45.18'	19.95'	20.90'
MW-04	49.85'	5.00'	44.85'	21.75'	23.40'
MW-05	49.35'	4.54'	44.81'	27.42'	28.30'
MW-07	48.86'	4.14'	44.72'	24.76'	N/A
MW-08	49.37'	4.38'	44.99'	25.06'	26.80'
MW-09	49.29'	4.15'	45.14'	25.40'	26.80'
MW-10A	49.90'	4.87'	45.03'	25.60'	25.90'
MW-11A	50.04'	5.16'	44.88'	24.01'	24.40'

Well ID	Top of Casing Elevation (msl)	Depth to Water (ft TOC)	Water Surface Elevation (msl)	Total Depth of Well as Measured (ft TOC)	Total Depth as Logged (ft TOC) *
MW-10B	49.97'	5.00'	44.97'	46.52'	48.80'
MW-11B	50.19'	5.35'	44.84'	46.73'	46.80'
P-10	47.72'	N/A	N/A	N/A	N/A
P-11	49.02'	4.08'	44.94'	42.79'	51.80'
P-12	48.82'	3.78'	45.04'	42.84'	51.70'

**NOTES:**

- 1) msl - feet above mean sea level
- 2) ft TOC-feet below the Top Of (the well) Casing
- 3) \* Logged during well installation
- 4) N/A - Information not available

TABLE 2-4

Compliance Status of Wells and Piezometers

First Semiannual Sampling Event, 1998

Houston Wood Preserving Works

Houston, Texas

A-TZ Monitoring Location	Compliance Status
MW-01A	Non-Compliant
MW-02	Non-Compliant
MW-03	Non-Compliant
MW-04	Compliant
MW-05	Non-Compliant
MW-07	Compliant
MW-08	Non-Compliant
MW-09	Compliant
MW-10A	Compliant
MW-11A	Non-Compliant

B-TZ Monitoring Location	Compliance Status
MW-10B	Non-Compliant
MW-11B	Compliant
P-10	Non-Compliant
P-11	Non-Compliant
P-12	Compliant



Source: U.S.G.S. Quadrangle  
Settegast, Texas  
1982

## 7.5 Minute Series (Topographic)

0 2000 4000  
SCALE FEET



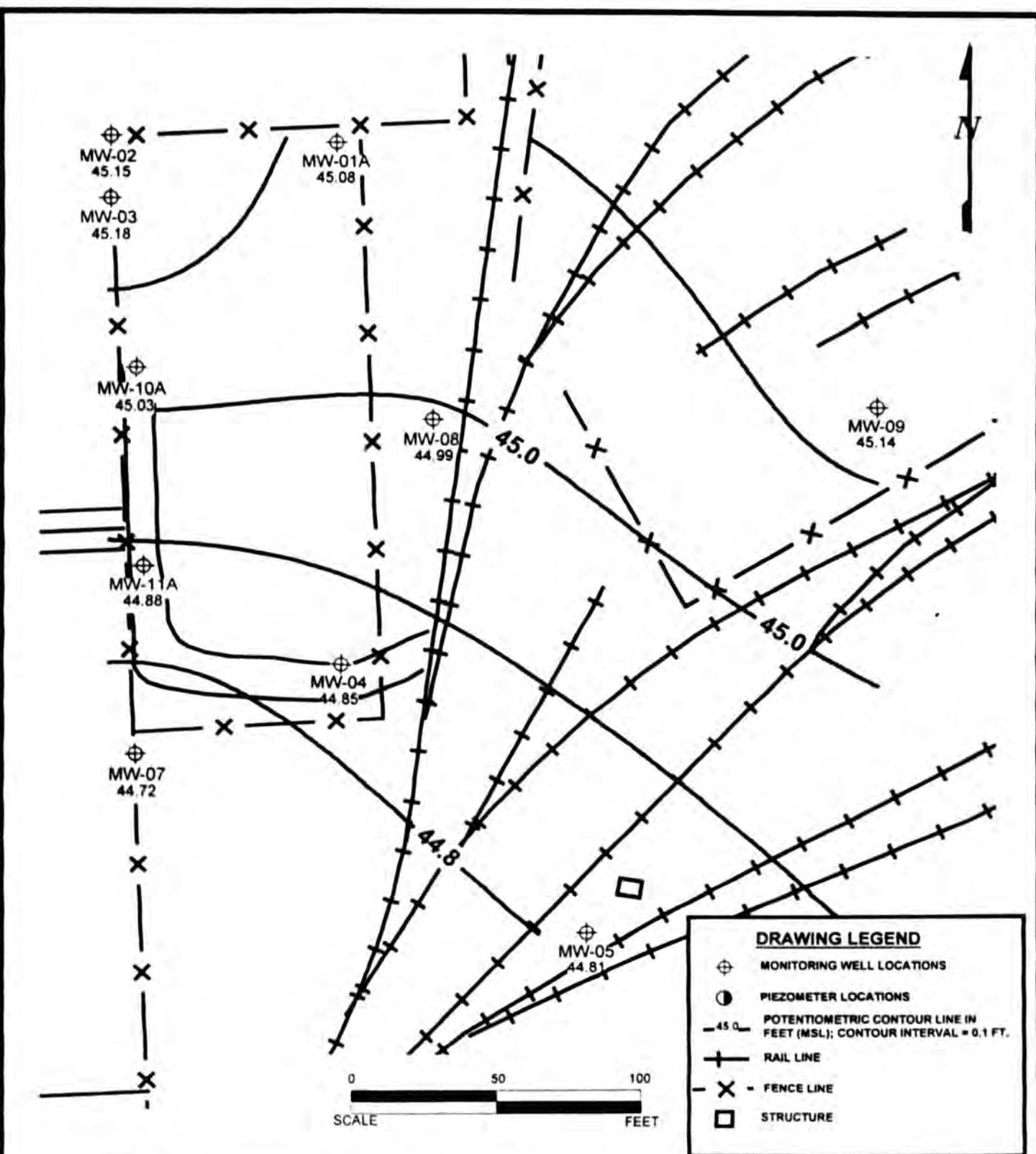
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ERM.

DATE: 11/17/97

W.O.NO.: 42209A17

FIGURE 1-1  
SITE LOCATION MAP  
Houston Wood Preserving Works  
Houston, Texas



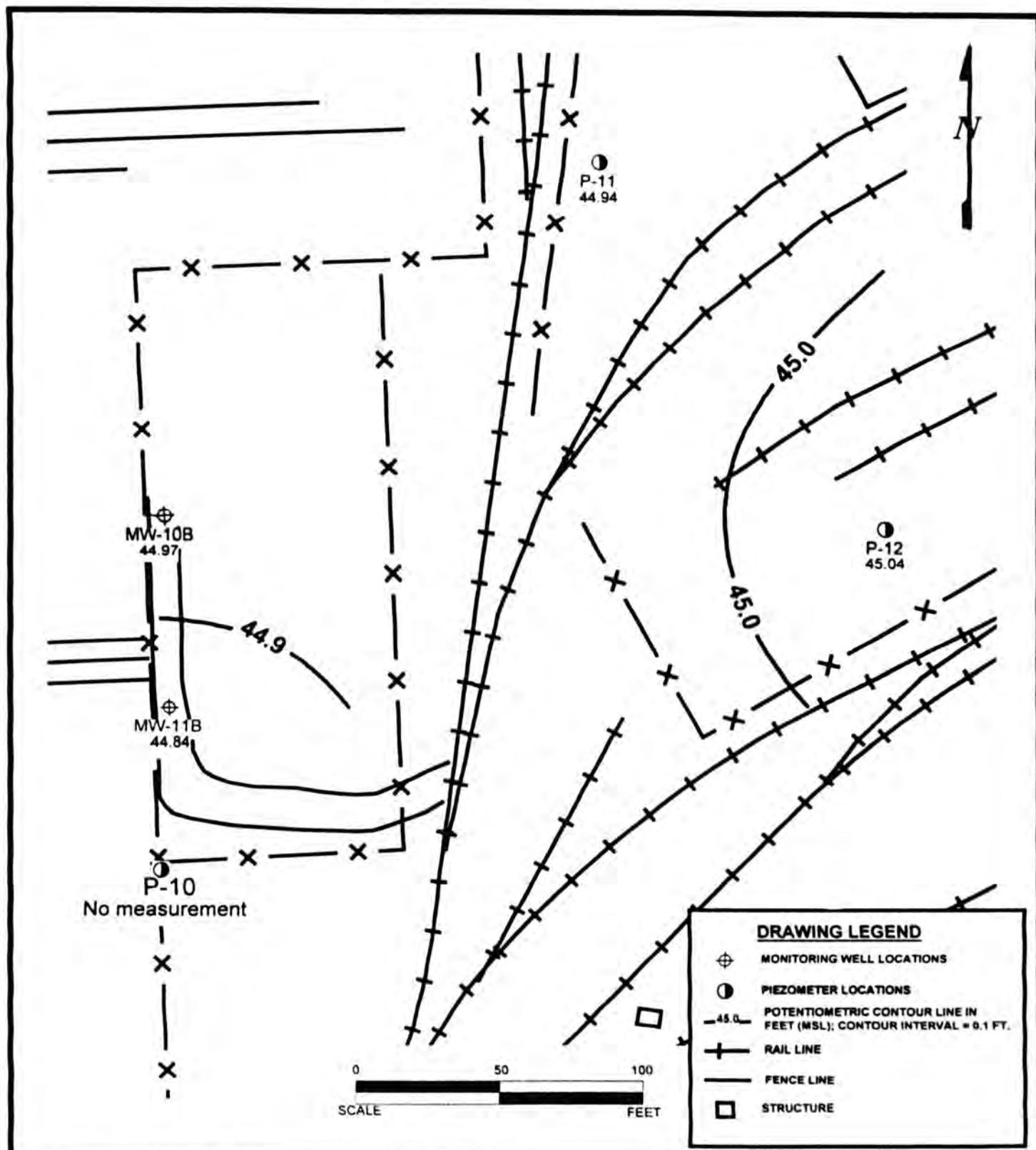
**ERM-Southwest, Inc.**

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DATE: 6/24/98

DRAWING NO.: 42209A51F98

**FIGURE 2-1**  
**A-TZ - POTENIOMETRIC SURFACE**  
**MARCH 4, 1998**  
**TNRCC PERMIT UNIT No. II.B.1.**  
**HOUSTON WOOD PRESERVING WORKS**  
**HOUSTON, TEXAS**



**ERM-Southwest, Inc.**

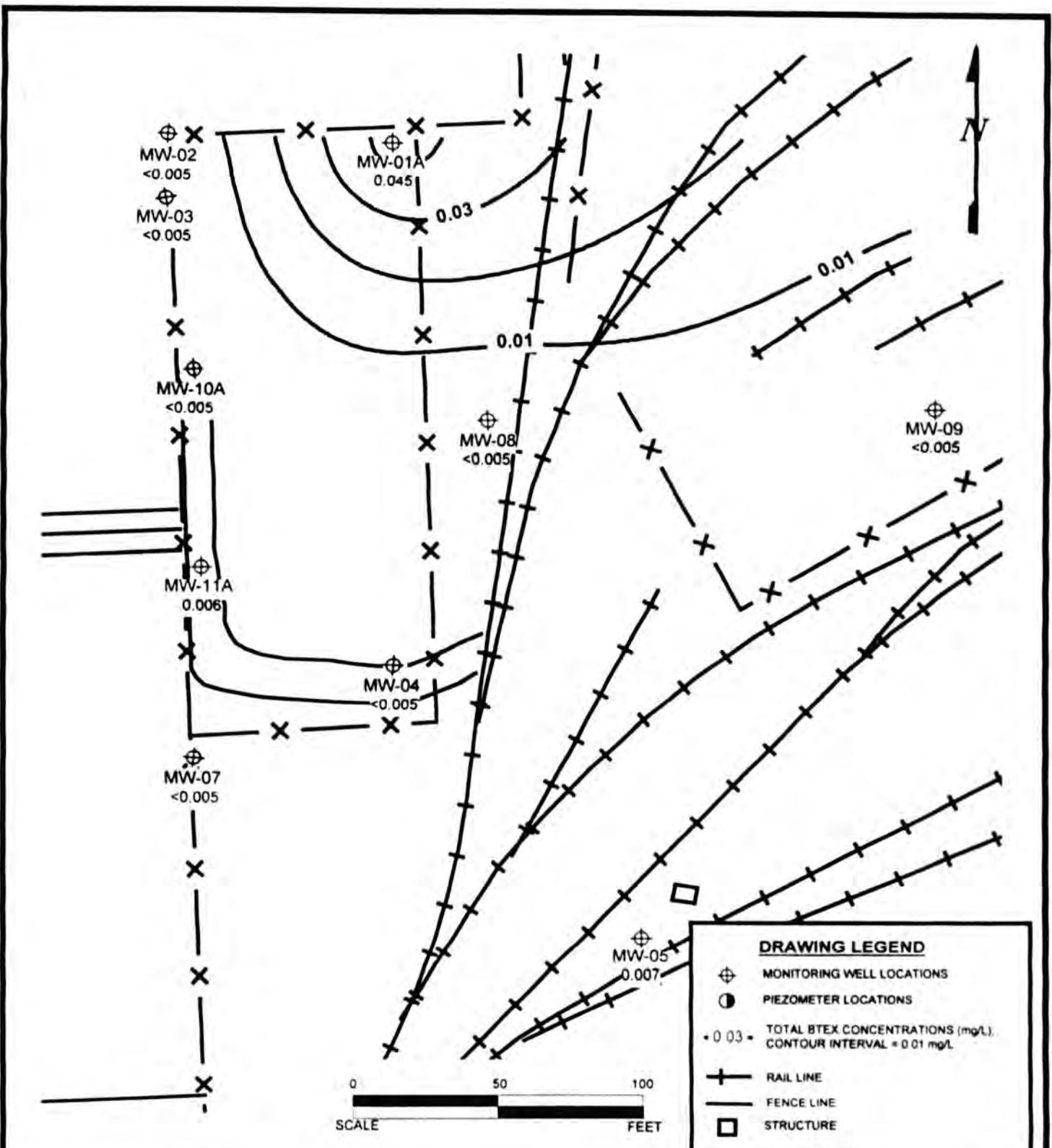
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**ERM**

DATE: 6/24/98

DRAWING NO.: 42209A52F98

**FIGURE 2-2**  
**B-TZ - POTENTIOMETRIC SURFACE**  
**MARCH 4, 1998**  
**TNRCC PERMIT UNIT No. II.B.1.**  
**HOUSTON WOOD PRESERVING WORKS**  
**HOUSTON, TEXAS**



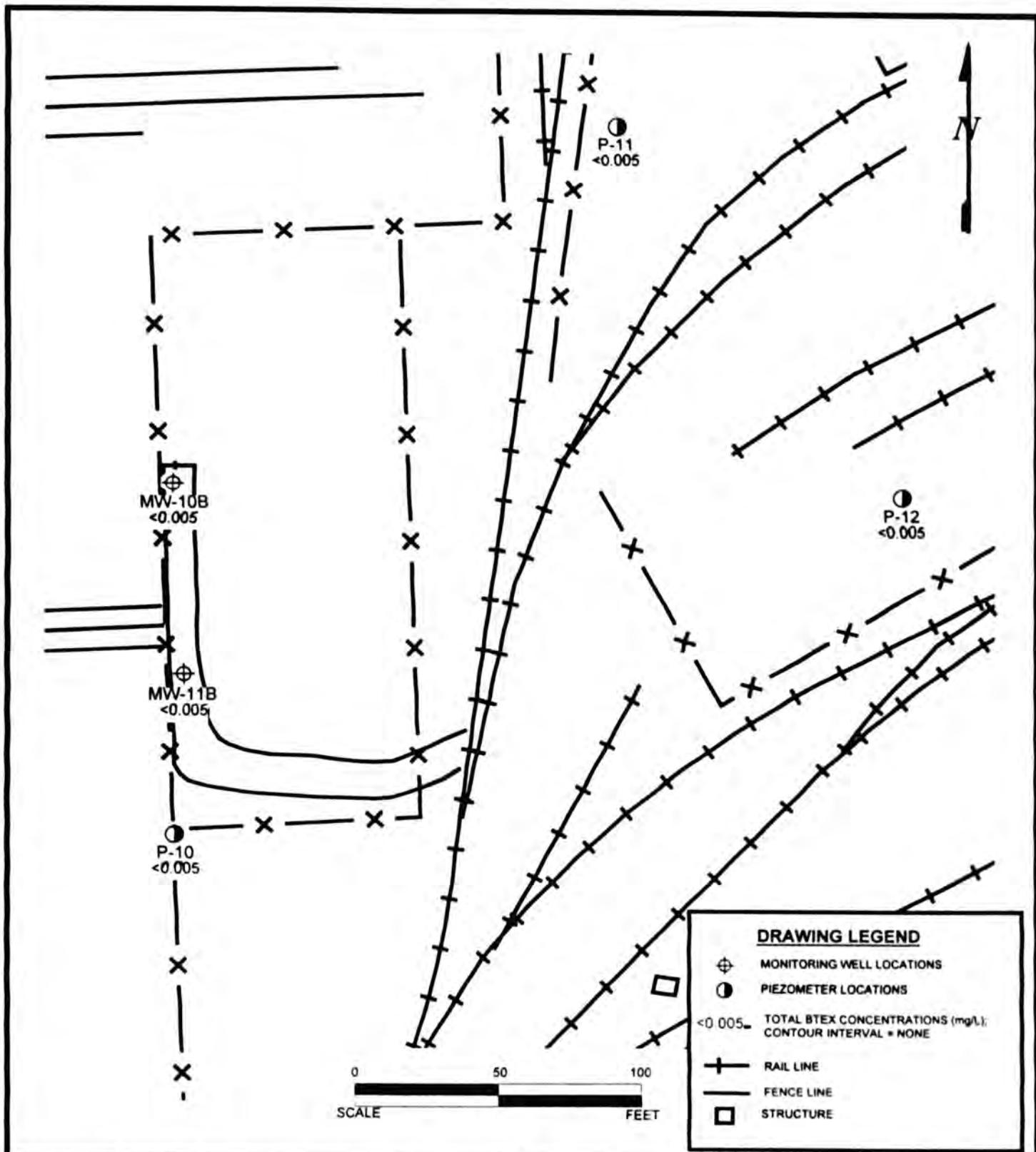
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DATE: 6/24/98

DRAWING NO.: 42209A53F98

**FIGURE 2-3**  
**TOTAL BTEX IN A-TZ - GROUND WATER (mg/L)**  
**MARCH 4, 1998**  
**TNRCC PERMIT UNIT No. II.B.1.**  
**HOUSTON WOOD PRESERVING WORKS**  
**HOUSTON, TEXAS**



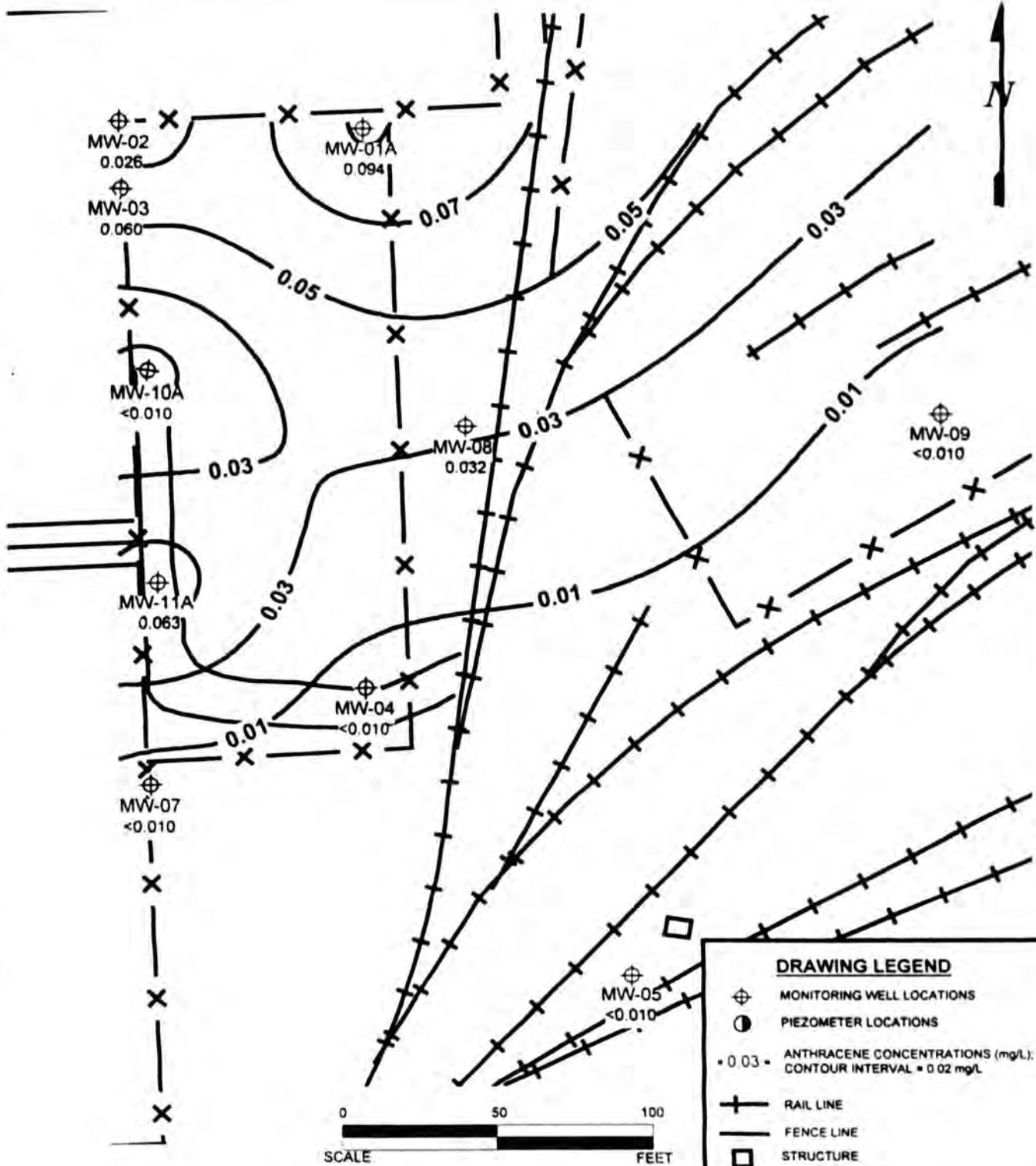
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DRAWING NO.: 42209A54E98

**FIGURE 2-4**  
**TOTAL BTEX IN B-TZ - GROUND WATER (mg/L)**  
**MARCH 4, 1998**  
**TNRCC PERMIT UNIT No. II.B.1.**  
**HOUSTON WOOD PRESERVING WORKS**  
**HOUSTON, TEXAS**



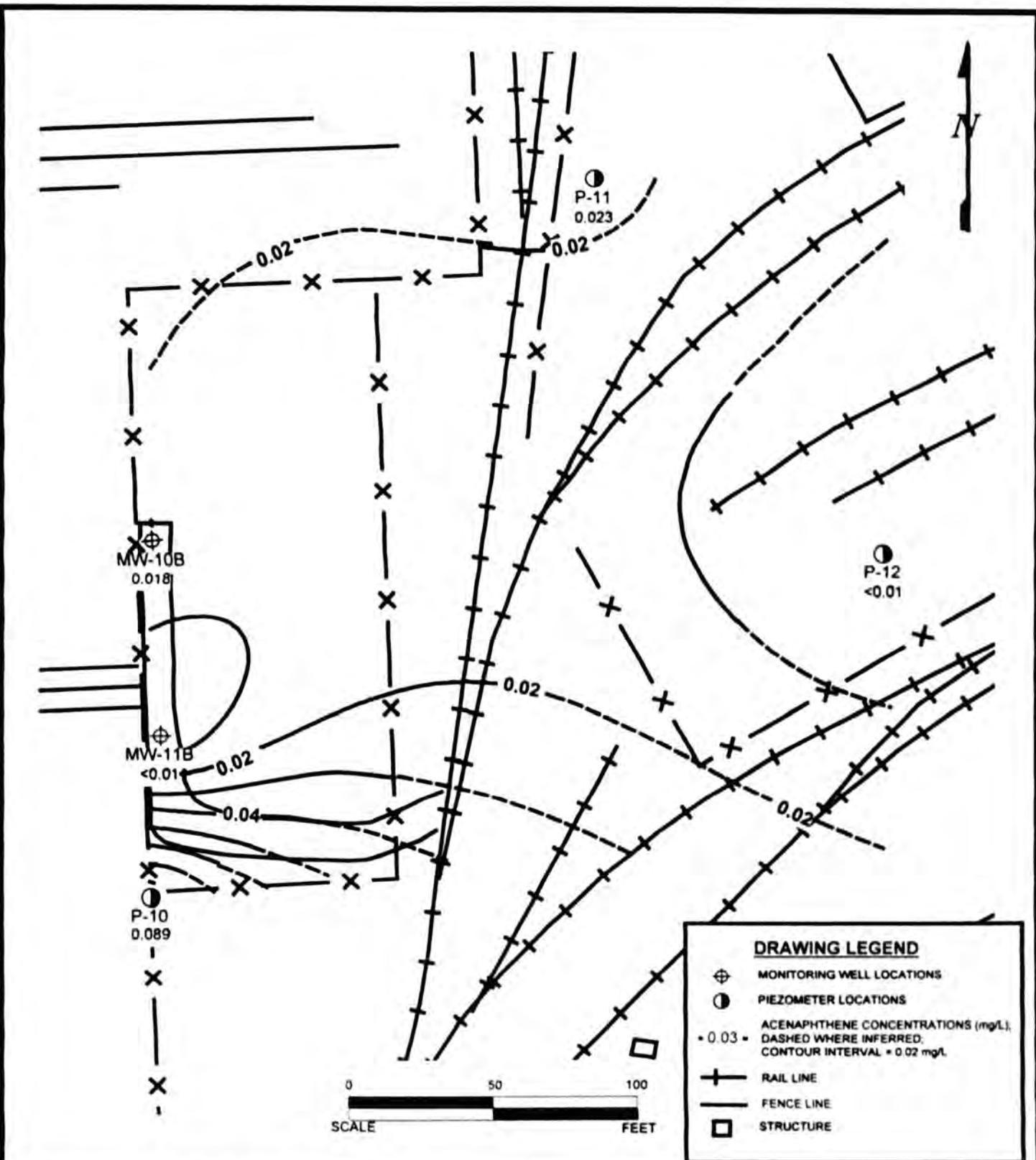
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DATE: 5/22/98

DRAWING NO.: 42209A55E98

**FIGURE 2-5**  
ACENAPHTHENE IN A-TZ - GROUND WATER (mg/L)  
MARCH 4, 1998  
TNRCC PERMIT UNIT No. II.B.1.  
HOUSTON WOOD PRESERVING WORKS  
HOUSTON, TEXAS



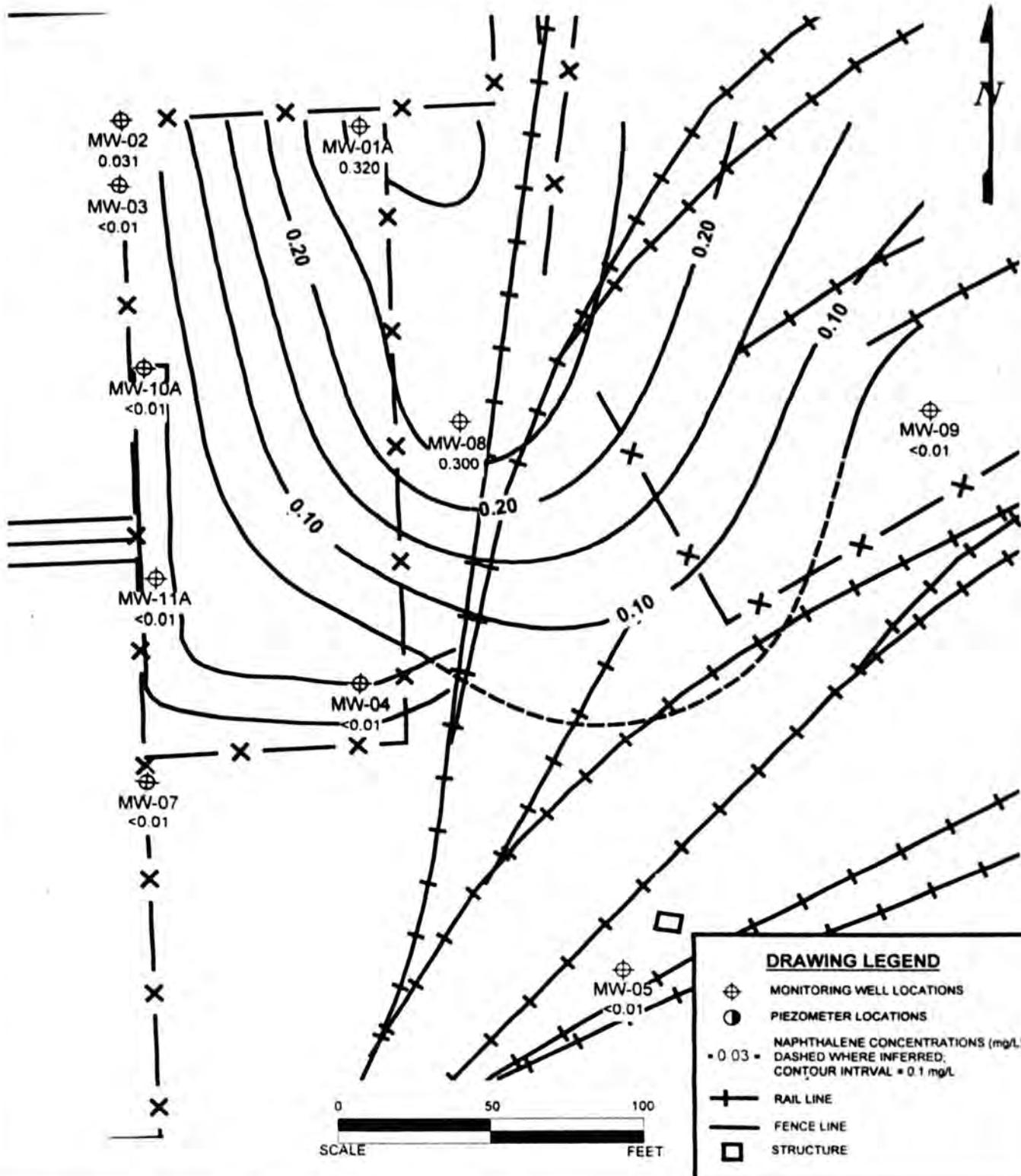
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DATE: 6/24/98

DRAWING NO.: 42209A56F98

FIGURE 2-6  
ACENAPHTHENE IN B-TZ - GROUND WATER (mg/L)  
MARCH 4, 1998  
TNRCC PERMIT UNIT No. II.B.1.  
HOUSTON WOOD PRESERVING WORKS  
HOUSTON, TEXAS



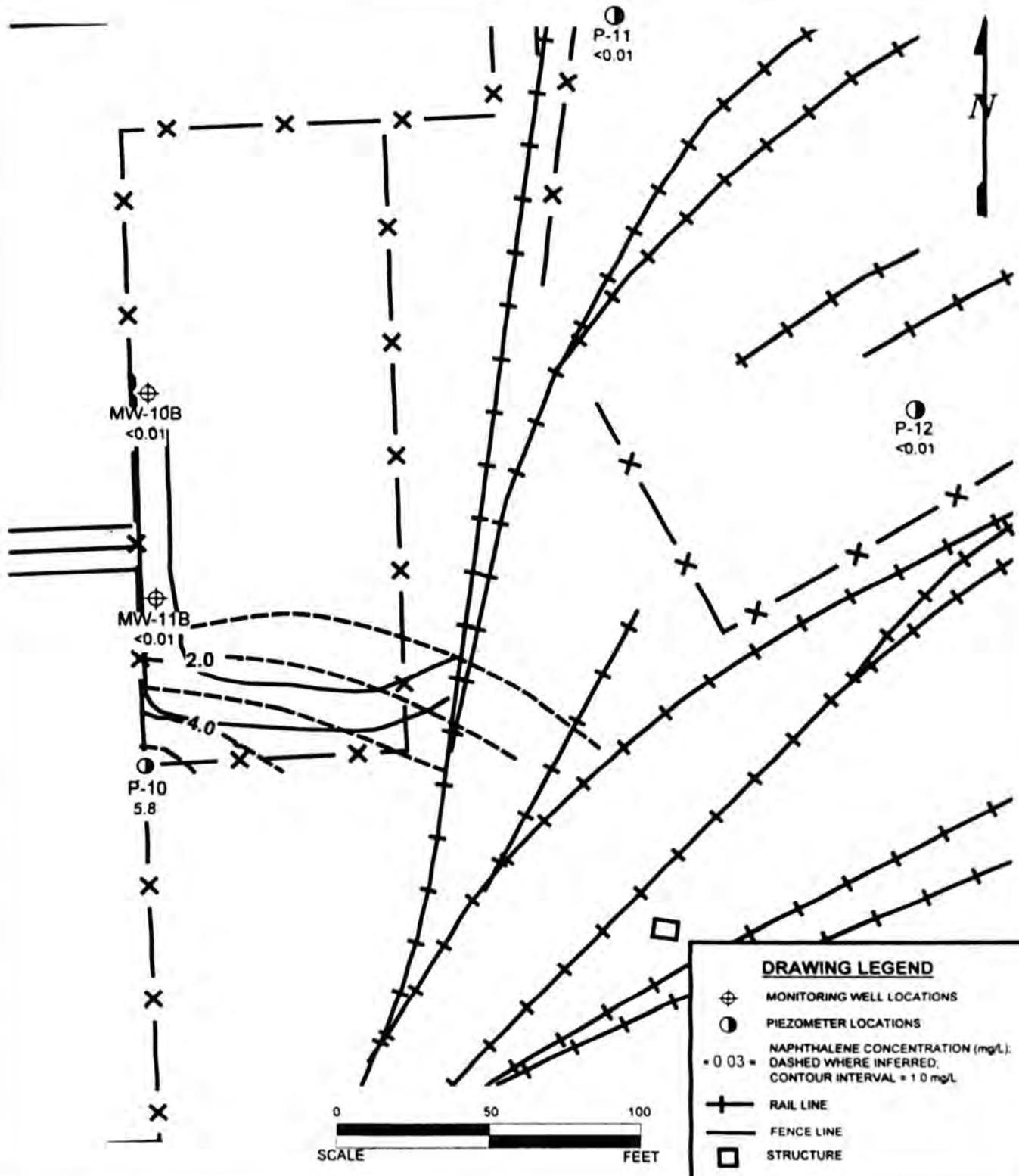
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DATE: 6/24/98

DRAWING NO.: 42209A57F98

**FIGURE 2-7**  
**NAPHTHALENE IN A-TZ - GROUND WATER (mg/L)**  
**MARCH 4, 1998**  
**TNRCC PERMIT UNIT No. II.B.1.**  
**HOUSTON WOOD PRESERVING WORKS**  
**HOUSTON, TEXAS**



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DATE: 6/24/98

DRAWING NO.: 42209A58F98

**FIGURE 2-8**  
**NAPHTHALENE IN B-TZ - GROUND WATER (mg/L)**  
**MARCH 4, 1998**  
**TNRCC PERMIT UNIT No. II.B.1.**  
**HOUSTON WOOD PRESERVING WORKS**  
**HOUSTON, TEXAS**

TABLE I

Table of Hazardous and Solid Waste Constituents and  
Concentration Limits for Ground-water Protection Standard

COLUMN A	COLUMN B
Hazardous Constituents	Concentration Limits (mg/l)
Acenaphthene	ND (0.010)
Acenaphthylene	ND (0.010)
Anthracene	ND (0.010)
Benzene	ND (0.005)
Benzo(a)anthracene	ND (0.010)
Benzo(a)pyrene	ND (0.010)
Bis(2-ethylhexyl)phthalate	ND (0.010)
Bis(2-chlororethoxy)methane	ND (0.010)
Chlorobenzene	ND (0.005)
2-Chloronaphthalene	ND (0.010)
Chrysene	ND (0.010)
Dibenzofuran	ND (0.010)
1,2-Dichlorethane	ND (0.005)
Dichloromethane *	ND (0.005)
2,4-Dimethylphenol	ND (0.010)
Di-n-butyl phthalate	ND (0.010)
4,6-Dinitro-o-cresol	ND (0.050)
2,4-Dinitrotoluene	ND (0.010)
2,6-Dinitrotoluene	ND (0.010)
1,2-Diphenylhydrazine	ND (0.010)
Ethylbenzene	ND (0.005)
Fluoranthene	ND (0.010)
Fluorene	ND (0.010)
Methylene chloride	ND (0.010)
2-Methylnaphthalene	ND (0.010)
Naphthalene	ND (0.010)
Nitrobenzene	ND (0.010)
4-Nitrophenol	ND (0.050)
N-Nitrosodiphenylamine	ND (0.010)
Pentachlorophenol	ND (0.050)
Phenanthrene	ND (0.010)
Phenol	ND (0.010)
Pyrene	ND (0.010)
Toluene	ND (0.005)
Xylenes	ND (0.005)

## NOTES:

N.D. Non-detectable at Practical Quantitation Limit as determined by the analytical methods of the United States Environmental Protection Agency publication SW-846 Test Methods for Evaluating Solid Waste, Third Edition, November 1986, (USEPA SW-846) and as listed in the July 8, 1987 edition of the Federal Register and later editions. Practical Quantitation Limit (PQL) is indicated in parentheses. Practical Quantitation Limits are the lowest concentrations of analytes in ground-water that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions.

\* Because Methylene Chloride is listed herein with a PQL of 0.010 mg/L, and is the same compound as Dichloromethane, comparisons for compliance will be made at 0.010 mg/L.

**TABLE III**  
**Designation of Wells by Function**

<u>1. POINT OF COMPLIANCE WELLS</u>		<u>SAMPLING FREQUENCY</u>
A.	A-TZ or Upper Transmissive Zone	
	MW-1	Semiannual
	MW-2	Semiannual
	MW-3	Semiannual
	MW-10	Semiannual
	MW-11	Semiannual
<u>2. BACKGROUND WELLS</u>		
As proposed in the Compliance Plan Application, background values of the tested constituents will be assumed to be the Practical Quantitation Limit (PQL), and therefore, negate the need for background wells, unless this Compliance Plan is modified under Section VI.A.		
<u>3. CORRECTIVE ACTION OBSERVATION WELLS</u>		<u>SAMPLING FREQUENCY</u>
A.	On-site A-TZ or Uppermost Transmissive Zone	
	MW-4	Semiannual
	MW-5	Semiannual
	MW-7	Semiannual
	MW-8	Semiannual
	MW-9	Semiannual

**NOTE:**

This table has been modified from CP-50343.

TABLE B-1  
 Ground Water Sampling Field Parameters  
 First Semiannual Sampling Event, 1998  
 Houston Wood Preserving Works  
 Houston, Texas

<u>Well ID</u> <u>Date Sampled</u>	<u>MW-01A</u> <u>3/3/98</u>	<u>MW-02</u> <u>3/3/98</u>	<u>MW-03</u> <u>3/3/98</u>	<u>MW-04</u> <u>3/3/98</u>	<u>MW-05</u> <u>3/4/98</u>	<u>MW-07</u> <u>3/4/98</u>	<u>MW-08</u> <u>3/4/98</u>	<u>MW-09</u> <u>3/4/98</u>
Time Sampled (hrs)	1504	1550	1615	1125	1218	0807	1327	1021
Temperature (°C)	20.4	19.4	19.6	21.0	21.5	20.0	21.1	21.9
pH (Standard Units)	6.72	6.70	6.71	6.60	6.79	6.90	6.85	6.80
Specific Conductivity (uS)	1620	590	1440	930	784	1028	607	865
Turbidity (ntu)	2.71	6.40	2.01	0.09	0.45	2.78	1.04	1.86
<u>Well ID</u> <u>Date Sampled</u>	<u>MW-10A</u> <u>3/3/98</u>	<u>MW-10B</u> <u>3/3/98</u>	<u>MW-11A</u> <u>3/3/98</u>	<u>MW-11B</u> <u>3/3/98</u>	<u>P-10</u> <u>3/4/98</u>	<u>P-11</u> <u>3/4/98</u>	<u>P-12</u> <u>3/4/98</u>	
Time Sampled (hrs)	1338	1410	1208	1254	0857	1423	1113	
Temperature (°C)	20.1	21.0	20.8	21.7	21.3	22.5	22.8	
pH (Standard Units)	6.80	6.80	6.80	6.90	6.65	6.46	6.53	
Specific Conductivity (uS)	1640	1410	1410	1230	1282	1432	1501	
Turbidity (ntu)	11	8	31	13	8.62	1.23	0.33	

# Pace Analytical

Pace Analytical Services, Inc.  
900 Gemini Avenue  
Houston, TX 77058

Tel: 281-488-1810  
Fax: 281-488-4661

April 01, 1998

Mr. Tom Pacioni  
ERM-Southwest, Inc.  
16300 Katy Fwy, Suite 300  
Houston, TX 77094

RE: Pace Project Number: 851674  
Client Project ID: HWPW

Dear Mr. Pacioni:

Enclosed are the results of analyses for sample(s) received by the laboratory on March 5, 1998. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Elessa Sommers  
Project Manager

Enclosures

## REPORT OF LABORATORY ANALYSIS

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# Pace Analytical

Pace Analytical Services, Inc.

900 Gemini Avenue

Houston, TX 77058

Tel: 281-488-1810

Fax: 281-488-4661

DATE: 04/01/98

PAGE: 1

ERM-Southwest, Inc.  
16300 Katy Fwy, Suite 300  
Houston, TX 77094

Pace Project Number: 851674

Client Project ID: HWPW

Attn: Mr. Tom Pacioni  
Phone: 281-579-8999

Solid results are reported on a wet weight basis

Pace Sample No:	85173763	Date Collected:	03/03/98	Matrix:	Water
Client Sample ID:	HWPW-MW-01A-1SA98	Date Received:	03/05/98		

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
------------	---------	-------	-----	----------	---------	------	-----------

GC/MS -- VOA

GC/MS VOCs, RCRA	Method: EPA 8260		Prep Method: EPA 8260	
Methylene Chloride	ND	ug/L	5	03/17/98 NZAI 75-09-2
Benzene	11	ug/L	5	03/17/98 NZAI 71-43-2
1,2-Dichloroethane	ND	ug/L	5	03/17/98 NZAI 107-06-2
Toluene	ND	ug/L	5	03/17/98 NZAI 108-88-3
Chlorobenzene	ND	ug/L	5	03/17/98 NZAI 108-90-7
Ethylbenzene	9.6	ug/L	5	03/17/98 NZAI 100-41-4
Xylene (Total)	24	ug/L	5	03/17/98 NZAI 1330-20-7
Dibromofluoromethane (S)	97	‡		03/17/98 NZAI 1868-53-7
Toluene-d8 (S)	98	‡		03/17/98 NZAI 2037-26-5
4-Bromofluorobenzene (S)	95	‡		03/17/98 NZAI 460-00-4

GC/MS -- Semi-VOA

Semivolatile Organics, Water	Method: EPA 8270		Prep Method: EPA 3520	
Phenol	ND	ug/L	10	03/16/98 VHEB 108-95-2
Nitrobenzene	ND	ug/L	10	03/16/98 VHEB 98-95-3
2,4-Dimethylphenol	ND	ug/L	10	03/16/98 VHEB 105-67-9
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/16/98 VHEB 111-91-1
Naphthalene	320	ug/L	20	03/16/98 VHEB 91-20-3
2-Methylnaphthalene	41	ug/L	10	03/16/98 VHEB 91-57-6
2-Chloronaphthalene	ND	ug/L	10	03/16/98 VHEB 91-58-7
Acenaphthylene	ND	ug/L	10	03/16/98 VHEB 208-96-8
2,6-Dinitrotoluene	ND	ug/L	10	03/16/98 VHEB 606-20-2
Acenaphthene	94	ug/L	10	03/16/98 VHEB 83-32-9
4-Nitrophenol	ND	ug/L	50	03/16/98 VHEB 100-02-7
Dibenzofuran	59	ug/L	10	03/16/98 VHEB 132-64-9

## REPORT OF LABORATORY ANALYSIS

DATE: 04/01/98  
PAGE: 2

Pace Project Number: 851674

Client Project ID: HWPW

Pace Sample No:	85173763		Date Collected:	03/03/98	Matrix:	Water	
Client Sample ID:	HWPW-MW-01A-1SA98		Date Received:	03/05/98			
Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
2,4-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB	121-14-2	
Fluorene	68	ug/L	10	03/16/98	VHEB	86-73-7	
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/16/98	VHEB	534-52-1	
N-Nitrosodiphenylamine	ND	ug/L	10	03/16/98	VHEB	86-30-6	
Pentachlorophenol	ND	ug/L	50	03/16/98	VHEB	87-86-5	
Phenanthrene	28	ug/L	10	03/16/98	VHEB	85-01-8	
Anthracene	ND	ug/L	10	03/16/98	VHEB	120-12-7	
D1-n-butylphthalate	ND	ug/L	10	03/16/98	VHEB	84-74-2	
Fluoranthene	ND	ug/L	10	03/16/98	VHEB	206-44-0	
Pyrene	ND	ug/L	10	03/16/98	VHEB	129-00-0	
Benzo(a)anthracene	ND	ug/L	10	03/16/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/16/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/16/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/16/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/16/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	43	‡		03/16/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	58	‡		03/16/98	VHEB	321-60-8	
Phenol-d6 (S)	21	‡		03/16/98	VHEB	13127-88-3	
2-Fluorophenol (S)	8	‡		03/16/98	VHEB	367-12-4	
2,4,6-Tribromophenol (S)	44	‡		03/16/98	VHEB	118-79-6	
Terphenyl-d14 (S)	79	‡		03/16/98	VHEB	1718-51-0	
Date Extracted				03/10/98			1

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# Pace Analytical

Pace Analytical Services, Inc.  
900 Gemini Avenue  
Houston, TX 77058

Tel: 281-488-1810  
Fax: 281-488-4661

DATE: 04/01/98  
PAGE: 3

Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No:	85173771	Date Collected:	03/03/98	Matrix:	Water
Client Sample ID:	HWPW-MW-02-1SA98	Date Received:	03/05/98		

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
------------	---------	-------	-----	----------	---------	------	-----------

GC/MS -- VOA

GC/MS VOCs, RCRA	Method: EPA 8260			Prep Method: EPA 8260		
Methylene Chloride	ND	ug/L	5	03/17/98	NZAI	75-09-2
Benzene	ND	ug/L	5	03/17/98	NZAI	71-43-2
1,2-Dichloroethane	ND	ug/L	5	03/17/98	NZAI	107-06-2
Toluene	ND	ug/L	5	03/17/98	NZAI	108-88-3
Chlorobenzene	ND	ug/L	5	03/17/98	NZAI	108-90-7
Ethylbenzene	ND	ug/L	5	03/17/98	NZAI	100-41-4
Xylene (Total)	ND	ug/L	5	03/17/98	NZAI	1330-20-7
Dibromofluoromethane (S)	98	;		03/17/98	NZAI	1868-53-7
Toluene-d8 (S)	96	;		03/17/98	NZAI	2037-26-5
4-Bromofluorobenzene (S)	99	;		03/17/98	NZAI	460-00-4

GC/MS -- Semi-VOA

Semivolatile Organics, Water	Method: EPA 8270			Prep Method: EPA 3520		
Phenol	ND	ug/L	10	03/16/98	VHEB	108-95-2
Nitrobenzene	ND	ug/L	10	03/16/98	VHEB	98-95-3
2,4-Dimethylphenol	ND	ug/L	10	03/16/98	VHEB	105-67-9
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/16/98	VHEB	111-91-1
Naphthalene	31	ug/L	10	03/16/98	VHEB	91-20-3
2-Methylnaphthalene	ND	ug/L	10	03/16/98	VHEB	91-57-6
2-Chloronaphthalene	ND	ug/L	10	03/16/98	VHEB	91-58-7
Acenaphthylene	ND	ug/L	10	03/16/98	VHEB	208-96-8
2,6-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB	606-20-2
Acenaphthene	26	ug/L	10	03/16/98	VHEB	83-32-9
4-Nitrophenol	ND	ug/L	50	03/16/98	VHEB	100-02-7
Dibenzofuran	20	ug/L	10	03/16/98	VHEB	132-64-9
2,4-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB	121-14-2
Fluorene	20	ug/L	10	03/16/98	VHEB	86-73-7
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/16/98	VHEB	534-52-1
N-Nitrosodiphenylamine	ND	ug/L	10	03/16/98	VHEB	86-30-6
Pentachlorophenol	ND	ug/L	50	03/16/98	VHEB	87-86-5
Phenanthrene	ND	ug/L	10	03/16/98	VHEB	85-01-8
Anthracene	ND	ug/L	10	03/16/98	VHEB	120-12-7
Di-n-butylphthalate	ND	ug/L	10	03/16/98	VHEB	84-74-2
Fluoranthene	ND	ug/L	10	03/16/98	VHEB	206-44-0
Pyrene	ND	ug/L	10	03/16/98	VHEB	129-00-0

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Fax: 281-488-4661

DATE: 04/01/98  
PAGE: 4

Pace Project Number: 851674

Client Project ID: HWPW

Pace Sample No: 85173771 Date Collected: 03/03/98 Matrix: Water  
Client Sample ID: HWPW-MW-02-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/16/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/16/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/16/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/16/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/16/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	48	‡		03/16/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	60	‡		03/16/98	VHEB	321-60-8	
Phenol-d6 (S)	34	‡		03/16/98	VHEB	13127-88-3	
2-Fluorophenol (S)	25	‡		03/16/98	VHEB	367-12-4	
2,4,6-Tribromophenol (S)	58	‡		03/16/98	VHEB	118-79-6	
Terphenyl-d14 (S)	66	‡		03/16/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

## REPORT OF LABORATORY ANALYSIS

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900 Gemini Avenue

Houston, TX 77058

Tel: 281-488-1810

Fax: 281-488-4661

DATE: 04/01/98

PAGE: 5

Pace Project Number: 851674

Client Project ID: HWPW

Pace Sample No:	85173789	Date Collected:	03/03/98	Matrix:	Water
Client Sample ID:	HWPW-MW-03-1SA98	Date Received:	03/05/98		

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
------------	---------	-------	-----	----------	---------	------	-----------

GC/MS -- VOA

GC/MS VOCs, RCRA	Method: EPA 8260		Prep Method: EPA 8260	
Methylene Chloride	ND	ug/L	5	03/16/98 NZAI 75-09-2
Benzene	ND	ug/L	5	03/16/98 NZAI 71-43-2
1,2-Dichloroethane	ND	ug/L	5	03/16/98 NZAI 107-06-2
Toluene	ND	ug/L	5	03/16/98 NZAI 108-88-3
Chlorobenzene	ND	ug/L	5	03/16/98 NZAI 108-90-7
Ethylbenzene	ND	ug/L	5	03/16/98 NZAI 100-41-4
Xylene (Total)	ND	ug/L	5	03/16/98 NZAI 1330-20-7
Dibromofluoromethane (S)	96	‡		03/16/98 NZAI 1868-53-7
Toluene-d8 (S)	96	‡		03/16/98 NZAI 2037-26-5
4-Bromofluorobenzene (S)	102	‡		03/16/98 NZAI 460-00-4

GC/MS -- Semiv-VOA

Semivolatile Organics, Water	Method: EPA 8270		Prep Method: EPA 3520	
Phenol	ND	ug/L	10	03/17/98 VHEB 108-95-2
Nitrobenzene	ND	ug/L	10	03/17/98 VHEB 98-95-3
2,4-Dimethylphenol	ND	ug/L	10	03/17/98 VHEB 105-67-9
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/17/98 VHEB 111-91-1
Naphthalene	ND	ug/L	10	03/17/98 VHEB 91-20-3
2-Methylnaphthalene	ND	ug/L	10	03/17/98 VHEB 91-57-6
2-Chloronaphthalene	ND	ug/L	10	03/17/98 VHEB 91-58-7
Acenaphthylene	ND	ug/L	10	03/17/98 VHEB 208-96-8
2,6-Dinitrotoluene	ND	ug/L	10	03/17/98 VHEB 606-20-2
Acenaphthene	60	ug/L	10	03/17/98 VHEB 83-32-9
4-Nitrophenol	ND	ug/L	50	03/17/98 VHEB 100-02-7
Dibenzofuran	44	ug/L	10	03/17/98 VHEB 132-64-9
2,4-Dinitrotoluene	ND	ug/L	10	03/17/98 VHEB 121-14-2
Fluorene	52	ug/L	10	03/17/98 VHEB 86-73-7
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/17/98 VHEB 534-52-1
N-Nitrosodiphenylamine	ND	ug/L	10	03/17/98 VHEB 86-30-6
Pentachlorophenol	ND	ug/L	50	03/17/98 VHEB 87-86-5
Phenanthrene	ND	ug/L	10	03/17/98 VHEB 85-01-8
Anthracene	ND	ug/L	10	03/17/98 VHEB 120-12-7
Di-n-butylphthalate	ND	ug/L	10	03/17/98 VHEB 84-74-2
Fluoranthene	ND	ug/L	10	03/17/98 VHEB 206-44-0
Pyrene	ND	ug/L	10	03/17/98 VHEB 129-00-0

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Pace Project Number: 851674

Client Project ID: HWPW

Pace Sample No:	85173789	Date Collected:	03/03/98	Matrix:	Water
Client Sample ID:	HWPW-MW-03-1SA98	Date Received:	03/05/98		

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/17/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/17/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/17/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/17/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/17/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	35	‡		03/17/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	44	‡		03/17/98	VHEB	321-60-8	
Phenol-d6 (S)	16	‡		03/17/98	VHEB	13127-88-3	
2-Fluorophenol (S)	6	‡		03/17/98	VHEB	367-12-4	1
2,4,6-Tribromophenol (S)	52	‡		03/17/98	VHEB	118-79-6	
Terphenyl-d14 (S)	76	‡		03/17/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No:	85173797	Date Collected:	03/03/98	Matrix:	Water
Client Sample ID:	HWPW-MW-04-1SA98	Date Received:	03/05/98		

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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GC/MS -- VOA

GC/MS VOCs, RCRA	Method: EPA 8260			Prep Method: EPA 8260		
Methylene Chloride	ND	ug/L	5	03/16/98	NZAI	75-09-2
Benzene	ND	ug/L	5	03/16/98	NZAI	71-43-2
1,2-Dichloroethane	ND	ug/L	5	03/16/98	NZAI	107-06-2
Toluene	ND	ug/L	5	03/16/98	NZAI	108-88-3
Chlorobenzene	ND	ug/L	5	03/16/98	NZAI	108-90-7
Ethylbenzene	ND	ug/L	5	03/16/98	NZAI	100-41-4
Xylene (Total)	ND	ug/L	5	03/16/98	NZAI	1330-20-7
Dibromofluoromethane (S)	104	‡		03/16/98	NZAI	1868-53-7
Toluene-d8 (S)	100	‡		03/16/98	NZAI	2037-26-5
4-BromoFluorobenzene (S)	98	‡		03/16/98	NZAI	460-00-4

GC/MS -- Semi-VOA

Semivolatile Organics, Water	Method: EPA 8270			Prep Method: EPA 3520		
Phenol	ND	ug/L	10	03/23/98	VHEB	108-95-2
Nitrobenzene	ND	ug/L	10	03/23/98	VHEB	98-95-3
2,4-Dimethylphenol	ND	ug/L	10	03/23/98	VHEB	105-67-9
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/23/98	VHEB	111-91-1
Naphthalene	ND	ug/L	10	03/23/98	VHEB	91-20-3
2-Methylnaphthalene	ND	ug/L	10	03/23/98	VHEB	91-57-6
2-Chloronaphthalene	ND	ug/L	10	03/23/98	VHEB	91-58-7
Acenaphthylene	ND	ug/L	10	03/23/98	VHEB	208-96-8
2,6-Dinitrotoluene	ND	ug/L	10	03/23/98	VHEB	606-20-2
Acenaphthene	ND	ug/L	10	03/23/98	VHEB	83-32-9
4-Nitrophenol	ND	ug/L	50	03/23/98	VHEB	100-02-7
Dibenzofuran	ND	ug/L	10	03/23/98	VHEB	132-64-9
2,4-Dinitrotoluene	ND	ug/L	10	03/23/98	VHEB	121-14-2
Fluorene	ND	ug/L	10	03/23/98	VHEB	86-73-7
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/23/98	VHEB	534-52-1
N-Nitrosodiphenylamine	ND	ug/L	10	03/23/98	VHEB	86-30-6
Pentachlorophenol	ND	ug/L	50	03/23/98	VHEB	87-86-5
Phenanthrene	ND	ug/L	10	03/23/98	VHEB	85-01-8
Anthracene	ND	ug/L	10	03/23/98	VHEB	120-12-7
Di-n-butylphthalate	ND	ug/L	10	03/23/98	VHEB	84-74-2
Fluoranthene	ND	ug/L	10	03/23/98	VHEB	206-44-0
Pyrene	ND	ug/L	10	03/23/98	VHEB	129-00-0

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No:	85173797	Date Collected:	03/03/98	Matrix:	Water
Client Sample ID:	HWPW-MW-04-1SA98	Date Received:	03/05/98		
Parameters	Results	Units	PRL	Analyzed	Analyst
Benzo(a)anthracene	ND	ug/L	10	03/23/98	VHEB
Chrysene	ND	ug/L	10	03/23/98	VHEB
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/23/98	VHEB
Benzo(a)pyrene	ND	ug/L	10	03/23/98	VHEB
1,2-Diphenylhydrazine	ND	ug/L	10	03/23/98	VHEB
Nitrobenzene-d5 (S)	26	‡		03/23/98	VHEB
2-Fluorobiphenyl (S)	32	‡		03/23/98	VHEB
Phenol-d6 (S)	4	‡		03/23/98	VHEB
2-Fluorophenol (S)	5	‡		03/23/98	VHEB
2,4,6-Tribromophenol (S)	13	‡		03/23/98	VHEB
Terphenyl-d14 (S)	31	‡		03/23/98	VHEB
Date Extracted				03/10/98	

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No:	85173805	Date Collected:	03/04/98	Matrix:	Water
Client Sample ID:	HWPW-MW-05-1SA98	Date Received:	03/05/98		

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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GC/MS -- VOA

GC/MS VOCs, RCRA	Method: EPA 8260		Prep Method: EPA 8260	
Methylene Chloride	ND	ug/L	5	03/15/98 NZAI 75-09-2
Benzene	ND	ug/L	5	03/15/98 NZAI 71-43-2
1,2-Dichloroethane	ND	ug/L	5	03/15/98 NZAI 107-06-2
Toluene	ND	ug/L	5	03/15/98 NZAI 108-88-3
Chlorobenzene	ND	ug/L	5	03/15/98 NZAI 108-90-7
Ethylbenzene	ND	ug/L	5	03/15/98 NZAI 100-41-4
Xylene (Total)	6.6	ug/L	5	03/15/98 NZAI 1330-20-7
Dibromofluoromethane (S)	110	‡		03/15/98 NZAI 1868-53-7
Toluene-d8 (S)	96	‡		03/15/98 NZAI 2037-26-5
4-Bromofluorobenzene (S)	104	‡		03/15/98 NZAI 460-00-4

GC/MS -- Semivola

Semivolatile Organics, Water	Method: EPA 8270		Prep Method: EPA 3520	
Phenol	ND	ug/L	10	03/17/98 VHEB 108-95-2
Nitrobenzene	ND	ug/L	10	03/17/98 VHEB 98-95-3
2,4-Dimethylphenol	ND	ug/L	10	03/17/98 VHEB 105-67-9
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/17/98 VHEB 111-91-1
Naphthalene	ND	ug/L	10	03/17/98 VHEB 91-20-3
2-Methylnaphthalene	ND	ug/L	10	03/17/98 VHEB 91-57-6
2-Chloronaphthalene	ND	ug/L	10	03/17/98 VHEB 91-58-7
Acenaphthylene	ND	ug/L	10	03/17/98 VHEB 208-96-8
2,6-Dinitrotoluene	ND	ug/L	10	03/17/98 VHEB 606-20-2
Acenaphthene	ND	ug/L	10	03/17/98 VHEB 83-32-9
4-Nitrophenol	ND	ug/L	50	03/17/98 VHEB 100-02-7
Dibenzofuran	ND	ug/L	10	03/17/98 VHEB 132-64-9
2,4-Dinitrotoluene	ND	ug/L	10	03/17/98 VHEB 121-14-2
Fluorene	ND	ug/L	10	03/17/98 VHEB 86-73-7
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/17/98 VHEB 534-52-1
N-Nitrosodiphenylamine	ND	ug/L	10	03/17/98 VHEB 86-30-6
Pentachlorophenol	ND	ug/L	50	03/17/98 VHEB 87-86-5
Phenanthrene	ND	ug/L	10	03/17/98 VHEB 85-01-8
Anthracene	ND	ug/L	10	03/17/98 VHEB 120-12-7
Di-n-butylphthalate	ND	ug/L	10	03/17/98 VHEB 84-74-2
Fluoranthene	ND	ug/L	10	03/17/98 VHEB 206-44-0
Pyrene	ND	ug/L	10	03/17/98 VHEB 129-00-0

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173805 Date Collected: 03/04/98 Matrix: Water  
Client Sample ID: HWPW-MW-05-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/17/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/17/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/17/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/17/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/17/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	70	‡		03/17/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	75	‡		03/17/98	VHEB	321-60-8	
Phenol-d6 (S)	40	‡		03/17/98	VHEB	13127-88-3	
2-Fluorophenol (S)	26	‡		03/17/98	VHEB	367-12-4	
2,4,6-Tribromophenol (S)	60	‡		03/17/98	VHEB	118-79-6	
Terphenyl-d14 (S)	70	‡		03/17/98	VHEB	1718-51-0	
Date Extracted							03/10/98

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No:	85173813	Date Collected:	03/04/98	Matrix:	Water
Client Sample ID:	HWPW-MW-07-1SA98	Date Received:	03/05/98		

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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GC/MS -- VOA

GC/MS VOCs, RCRA	Method: EPA 8260			Prep Method: EPA 8260		
Methylene Chloride	ND	ug/L	5	03/16/98	NZAI	75-09-2
Benzene	ND	ug/L	5	03/16/98	NZAI	71-43-2
1,2-Dichloroethane	ND	ug/L	5	03/16/98	NZAI	107-06-2
Toluene	ND	ug/L	5	03/16/98	NZAI	108-88-3
Chlorobenzene	ND	ug/L	5	03/16/98	NZAI	108-90-7
Ethylbenzene	ND	ug/L	5	03/16/98	NZAI	100-41-4
Xylene (Total)	ND	ug/L	5	03/16/98	NZAI	1330-20-7
Dibromofluoromethane (S)	102	‡		03/16/98	NZAI	1868-53-7
Toluene-d8 (S)	94	‡		03/16/98	NZAI	2037-26-5
4-Bromofluorobenzene (S)	98	‡		03/16/98	NZAI	460-00-4

GC/MS -- Semi-VOA

Semivolatile Organics, Water	Method: EPA B270			Prep Method: EPA 3520		
Phenol	ND	ug/L	10	03/23/98	VHEB	108-95-2
Nitrobenzene	ND	ug/L	10	03/23/98	VHEB	98-95-3
2,4-Dimethylphenol	ND	ug/L	10	03/23/98	VHEB	105-67-9
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/23/98	VHEB	111-91-1
Naphthalene	ND	ug/L	10	03/23/98	VHEB	91-20-3
2-Methylnaphthalene	ND	ug/L	10	03/23/98	VHEB	91-57-6
2-Chloronaphthalene	ND	ug/L	10	03/23/98	VHEB	91-58-7
Acenaphthylene	ND	ug/L	10	03/23/98	VHEB	208-96-8
2,6-Dinitrotoluene	ND	ug/L	10	03/23/98	VHEB	606-20-2
Acenaphthene	ND	ug/L	10	03/23/98	VHEB	83-32-9
4-Nitrophenol	ND	ug/L	50	03/23/98	VHEB	100-02-7
Dibenzofuran	ND	ug/L	10	03/23/98	VHEB	132-64-9
2,4-Dinitrotoluene	ND	ug/L	10	03/23/98	VHEB	121-14-2
Fluorene	ND	ug/L	10	03/23/98	VHEB	86-73-7
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/23/98	VHEB	534-52-1
N-Nitrosodiphenylamine	ND	ug/L	10	03/23/98	VHEB	86-30-6
Pentachlorophenol	ND	ug/L	50	03/23/98	VHEB	87-86-5
Phenanthrene	ND	ug/L	10	03/23/98	VHEB	85-01-8
Anthracene	ND	ug/L	10	03/23/98	VHEB	120-12-7
Di-n-butylphthalate	ND	ug/L	10	03/23/98	VHEB	84-74-2
Fluoranthene	ND	ug/L	10	03/23/98	VHEB	206-44-0
Pyrene	ND	ug/L	10	03/23/98	VHEB	129-00-0

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173813 Date Collected: 03/04/98 Matrix: Water  
Client Sample ID: HWPW-MW-07-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/23/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/23/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/23/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/23/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/23/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	37	#		03/23/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	57	#		03/23/98	VHEB	321-60-8	
Phenol-d6 (S)	5	#		03/23/98	VHEB	13127-88-3	2
2-Fluorophenol (S)	6	#		03/23/98	VHEB	367-12-4	2
2,4,6-Tribromophenol (S)	0	#		03/23/98	VHEB	118-79-6	3
Terphenyl-d14 (S)	55	#		03/23/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

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Pace Project Number: 851674

Client Project ID: HWPW

Pace Sample No:	85173839	Date Collected:	03/04/98	Matrix:	Water
Client Sample ID:	HWPW-MW-08-1SA98	Date Received:	03/05/98		

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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GC/MS -- VOA

GC/MS VOCs, RCRA	Method:	EPA 8260		Prep Method:	EPA 8260
Methylene Chloride	ND	ug/L	5	03/15/98	NZAI 75-09-2
Benzene	ND	ug/L	5	03/15/98	NZAI 71-43-2
1,2-Dichloroethane	ND	ug/L	5	03/15/98	NZAI 107-06-2
Toluene	ND	ug/L	5	03/15/98	NZAI 108-88-3
Chlorobenzene	ND	ug/L	5	03/15/98	NZAI 108-90-7
Ethylbenzene	ND	ug/L	5	03/15/98	NZAI 100-41-4
Xylene (Total)	ND	ug/L	5	03/15/98	NZAI 1330-20-7
Dibromofluoromethane (S)	112	‡		03/15/98	NZAI 1868-53-7
Toluene-d8 (S)	96	‡		03/15/98	NZAI 2037-26-5
4-Bromofluorobenzene (S)	104	‡		03/15/98	NZAI 460-00-4

GC/MS -- Semi-VOA

Semivolatile Organics, Water	Method:	EPA 8270		Prep Method:	EPA 3520
Phenol	ND	ug/L	10	03/16/98	VHEB 108-95-2
Nitrobenzene	ND	ug/L	10	03/16/98	VHEB 98-95-3
2,4-Dimethylphenol	ND	ug/L	10	03/16/98	VHEB 105-67-9
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/16/98	VHEB 111-91-1
Naphthalene	300	ug/L	20	03/16/98	VHEB 91-20-3
2-Methylnaphthalene	16	ug/L	10	03/16/98	VHEB 91-57-6
2-Chloronaphthalene	ND	ug/L	10	03/16/98	VHEB 91-58-7
Acenaphthylene	ND	ug/L	10	03/16/98	VHEB 208-96-8
2,6-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB 606-20-2
Acenaphthene	32	ug/L	10	03/16/98	VHEB 83-32-9
4-Nitrophenol	ND	ug/L	50	03/16/98	VHEB 100-02-7
Dibenzofuran	22	ug/L	10	03/16/98	VHEB 132-64-9
2,4-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB 121-14-2
Fluorene	23	ug/L	10	03/16/98	VHEB 86-73-7
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/16/98	VHEB 534-52-1
N-Nitrosodiphenylamine	ND	ug/L	10	03/16/98	VHEB 86-30-6
Pentachlorophenol	ND	ug/L	50	03/16/98	VHEB 87-86-5
Phenanthrone	ND	ug/L	10	03/16/98	VHEB 85-01-8
Anthracene	ND	ug/L	10	03/16/98	VHEB 120-12-7
D1-n-butylphthalate	ND	ug/L	10	03/16/98	VHEB 84-74-2
Fluoranthene	ND	ug/L	10	03/16/98	VHEB 206-44-0
Pyrene	ND	ug/L	10	03/16/98	VHEB 129-00-0

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Pace Project Number: 851674

Client Project ID: HWPW

Pace Sample No:	85173839		Date Collected:	03/04/98	Matrix:	Water
Client Sample ID:	HWPW-MW-08-ISA98		Date Received:	03/05/98		
<hr/>						
Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#
Benzo(a)anthracene	ND	ug/L	10	03/16/98	VHEB	56-55-3
Chrysene	ND	ug/L	10	03/16/98	VHEB	218-01-9
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/16/98	VHEB	117-81-7
Benzo(a)pyrene	ND	ug/L	10	03/16/98	VHEB	50-32-8
1,2-Diphenylhydrazine	ND	ug/L	10	03/16/98	VHEB	122-66-7
Nitrobenzene-d5 (S)	67	‡		03/16/98	VHEB	4165-60-0
2-Fluorobiphenyl (S)	64	‡		03/16/98	VHEB	321-60-8
Phenol-d6 (S)	34	‡		03/16/98	VHEB	13127-88-3
2-Fluorophenol (S)	18	‡		03/16/98	VHEB	367-12-4
2,4,6-Tribromophenol (S)	65	‡		03/16/98	VHEB	118-79-6
Terphenyl-d14 (S)	110	‡		03/16/98	VHEB	1718-51-0
Date Extracted				03/10/98		

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173847 Date Collected: 03/04/98 Matrix: Water  
Client Sample ID: HWPW-MW-09-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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GC/MS -- VOA

GC/MS VOCs, RCRA	Method: EPA 8260	Prep Method: EPA 8260
Methylene Chloride	ND ug/L 5	03/15/98 NZAI 75-09-2
Benzene	ND ug/L 5	03/15/98 NZAI 71-43-2
1,2-Dichloroethane	ND ug/L 5	03/15/98 NZAI 107-06-2
Toluene	ND ug/L 5	03/15/98 NZAI 108-88-3
Chlorobenzene	ND ug/L 5	03/15/98 NZAI 108-90-7
Ethylbenzene	ND ug/L 5	03/15/98 NZAI 100-41-4
Xylene (Total)	ND ug/L 5	03/15/98 NZAI 1330-20-7
Dibromofluoromethane (S)	112 ‰	03/15/98 NZAI 1868-53-7
Toluene-d8 (S)	96 ‰	03/15/98 NZAI 2037-26-5
4-Bromoefluorobenzene (S)	104 ‰	03/15/98 NZAI 460-00-4

GC/MS -- Semi-VOA

Semivolatile Organics, Water	Method: EPA 8270	Prep Method: EPA 3520
Phenol	ND ug/L 10	03/23/98 VHEB 108-95-2
Nitrobenzene	ND ug/L 10	03/23/98 VHEB 98-95-3
2,4-Dimethylphenol	ND ug/L 10	03/23/98 VHEB 105-67-9
bis(2-Chloroethoxy)methane	ND ug/L 10	03/23/98 VHEB 111-91-1
Naphthalene	ND ug/L 10	03/23/98 VHEB 91-20-3
2-Methylnaphthalene	ND ug/L 10	03/23/98 VHEB 91-57-6
2-Chloronaphthalene	ND ug/L 10	03/23/98 VHEB 91-58-7
Acenaphthylene	ND ug/L 10	03/23/98 VHEB 208-96-8
2,6-Dinitrotoluene	ND ug/L 10	03/23/98 VHEB 606-20-2
Acenaphthene	ND ug/L 10	03/23/98 VHEB 83-32-9
4-Nitrophenol	ND ug/L 50	03/23/98 VHEB 100-02-7
Dibenzofuran	ND ug/L 10	03/23/98 VHEB 132-64-9
2,4-Dinitrotoluene	ND ug/L 10	03/23/98 VHEB 121-14-2
Fluorene	ND ug/L 10	03/23/98 VHEB 86-73-7
4,6-Dinitro-2-methylphenol	ND ug/L 50	03/23/98 VHEB 534-52-1
N-Nitrosodiphenylamine	ND ug/L 10	03/23/98 VHEB 86-30-6
Pentachlorophenol	ND ug/L 50	03/23/98 VHEB 87-86-5
Phenanthrene	ND ug/L 10	03/23/98 VHEB 85-01-8
Anthracene	ND ug/L 10	03/23/98 VHEB 120-12-7
D1-n-butylphthalate	ND ug/L 10	03/23/98 VHEB 84-74-2
Fluoranthene	ND ug/L 10	03/23/98 VHEB 206-44-0
Pyrene	ND ug/L 10	03/23/98 VHEB 129-00-0

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No:	85173847	Date Collected:	03/04/98	Matrix:	Water
Client Sample ID:	HWPW-MW-09-1SA98	Date Received:	03/05/98		
<hr/>					
Parameters	Results	Units	PRL	Analyzed	Analyst
Benzo(a)anthracene	ND	ug/L	10	03/23/98	VHEB
Chrysene	ND	ug/L	10	03/23/98	VHEB
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/23/98	VHEB
Benzo(a)pyrene	ND	ug/L	10	03/23/98	VHEB
1,2-Diphenylhydrazine	ND	ug/L	10	03/23/98	VHEB
Nitrobenzene-d5 (S)	62	‡		03/23/98	VHEB
2-Fluorobiphenyl (S)	63	‡		03/23/98	VHEB
Phenol-d6 (S)	16	‡		03/23/98	VHEB
2-Fluorophenol (S)	14	‡		03/23/98	VHEB
2,4,6-Tribromophenol (S)	29	‡		03/23/98	VHEB
Terphenyl-d14 (S)	70	‡		03/23/98	VHEB
Date Extracted				03/10/98	

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No:	85173854	Date Collected:	03/03/98	Matrix:	Water
Client Sample ID:	HWPW-MW-10A-1SA98	Date Received:	03/05/98		

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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GC/MS -- VOA

GC/MS VOCs, RCRA	Method: EPA 8260			Prep Method: EPA 8260		
Methylene Chloride	ND	ug/L	5	03/16/98	NZAI	75-09-2
Benzene	ND	ug/L	5	03/16/98	NZAI	71-43-2
1,2-Dichloroethane	ND	ug/L	5	03/16/98	NZAI	107-06-2
Toluene	ND	ug/L	5	03/16/98	NZAI	108-88-3
Chlorobenzene	ND	ug/L	5	03/16/98	NZAI	108-90-7
Ethylbenzene	ND	ug/L	5	03/16/98	NZAI	100-41-4
Xylene (Total)	ND	ug/L	5	03/16/98	NZAI	1330-20-7
Dibromofluoromethane (S)	100	t		03/16/98	NZAI	1868-53-7
Toluene-d8 (S)	96	t		03/16/98	NZAI	2037-26-5
4-Bromofluorobenzene (S)	100	t		03/16/98	NZAI	460-00-4

GC/MS -- Semi-VOA

Semivolatile Organics, Water	Method: EPA 8270			Prep Method: EPA 3520		
Phenol	ND	ug/L	10	03/16/98	VHEB	108-95-2
Nitrobenzene	ND	ug/L	10	03/16/98	VHEB	98-95-3
2,4-Dimethylphenol	ND	ug/L	10	03/16/98	VHEB	105-67-9
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/16/98	VHEB	111-91-1
Naphthalene	ND	ug/L	10	03/16/98	VHEB	91-20-3
2-Methylnaphthalene	ND	ug/L	10	03/16/98	VHEB	91-57-6
2-Chloronaphthalene	ND	ug/L	10	03/16/98	VHEB	91-58-7
Acenaphthylene	ND	ug/L	10	03/16/98	VHEB	208-96-8
2,6-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB	606-20-2
Acenaphthene	ND	ug/L	10	03/16/98	VHEB	83-32-9
4-Nitrophenol	ND	ug/L	50	03/16/98	VHEB	100-02-7
Dibenzofuran	ND	ug/L	10	03/16/98	VHEB	132-64-9
2,4-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB	121-14-2
Fluorene	ND	ug/L	10	03/16/98	VHEB	86-73-7
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/16/98	VHEB	534-52-1
N-Nitrosodiphenylamine	ND	ug/L	10	03/16/98	VHEB	86-30-6
Pentachlorophenol	ND	ug/L	50	03/16/98	VHEB	87-86-5
Phenanthrene	ND	ug/L	10	03/16/98	VHEB	85-01-8
Anthracene	ND	ug/L	10	03/16/98	VHEB	120-12-7
Di-n-butylphthalate	ND	ug/L	10	03/16/98	VHEB	84-74-2
Fluoranthene	ND	ug/L	10	03/16/98	VHEB	206-44-0
Pyrene	ND	ug/L	10	03/16/98	VHEB	129-00-0

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Pace Project Number: 851674

Client Project ID: HWPW

Pace Sample No:	85173854	Date Collected:	03/03/98	Matrix:	Water
Client Sample ID:	HWPW-MW-10A-1SA98	Date Received:	03/05/98		

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/16/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/16/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/16/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/16/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/16/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	57	‡		03/16/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	64	‡		03/16/98	VHEB	321-60-8	
Phenol-d6 (S)	35	‡		03/16/98	VHEB	13127-88-3	
2-Fluorophenol (S)	24	‡		03/16/98	VHEB	367-12-4	
2,4,6-Tribromophenol (S)	56	‡		03/16/98	VHEB	118-79-6	
Terphenyl-d14 (S)	76	‡		03/16/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173862 Date Collected: 03/03/98 Matrix: Water  
Client Sample ID: HWPW-MW-108-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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GC/MS -- VOA

GC/MS VOCs, RCRA	Method: EPA 8260	Prep Method: EPA 8260
Methylene Chloride	ND ug/L 5	03/16/98 NZAI 75-09-2
Benzene	ND ug/L 5	03/16/98 NZAI 71-43-2
1,2-Dichloroethane	ND ug/L 5	03/16/98 NZAI 107-06-2
Toluene	ND ug/L 5	03/16/98 NZAI 108-88-3
Chlorobenzene	ND ug/L 5	03/16/98 NZAI 108-90-7
Ethylbenzene	ND ug/L 5	03/16/98 NZAI 100-41-4
Xylene (Total)	ND ug/L 5	03/16/98 NZAI 1330-20-7
Dibromofluoromethane (S)	100 ‰	03/16/98 NZAI 1868-53-7
Toluene-d8 (S)	94 ‰	03/16/98 NZAI 2037-26-5
4-Bromofluorobenzene (S)	98 ‰	03/16/98 NZAI 460-00-4

GC/MS -- Semiv-VOA

Semivolatile Organics, Water	Method: EPA 8270	Prep Method: EPA 3520
Phenol	ND ug/L 10	03/16/98 VHEB 108-95-2
Nitrobenzene	ND ug/L 10	03/16/98 VHEB 98-95-3
2,4-Dimethylphenol	ND ug/L 10	03/16/98 VHEB 105-67-9
bis(2-Chloroethoxy)methane	ND ug/L 10	03/16/98 VHEB 111-91-1
Naphthalene	ND ug/L 10	03/16/98 VHEB 91-20-3
2-Methylnaphthalene	ND ug/L 10	03/16/98 VHEB 91-57-6
2-Chloronaphthalene	ND ug/L 10	03/16/98 VHEB 91-58-7
Acenaphthylene	ND ug/L 10	03/16/98 VHEB 208-96-8
2,6-Dinitrotoluene	ND ug/L 10	03/16/98 VHEB 606-20-2
Acenaphthene	18 ug/L 10	03/16/98 VHEB 83-32-9
4-Nitrophenol	ND ug/L 50	03/16/98 VHEB 100-02-7
Dibenzo furan	ND ug/L 10	03/16/98 VHEB 132-64-9
2,4-Dinitrotoluene	ND ug/L 10	03/16/98 VHEB 121-14-2
Fluorene	12 ug/L 10	03/16/98 VHEB 86-73-7
4,6-Dinitro-2-methylphenol	ND ug/L 50	03/16/98 VHEB 534-52-1
N-Nitrosodiphenylamine	ND ug/L 10	03/16/98 VHEB 86-30-6
Pentachlorophenol	ND ug/L 50	03/16/98 VHEB 87-86-5
Phenanthrene	ND ug/L 10	03/16/98 VHEB 85-01-8
Anthracene	ND ug/L 10	03/16/98 VHEB 120-12-7
Di-n-butylphthalate	ND ug/L 10	03/16/98 VHEB 84-74-2
Fluoranthene	ND ug/L 10	03/16/98 VHEB 206-44-0
Pyrene	ND ug/L 10	03/16/98 VHEB 129-00-0

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No:	85173862		Date Collected:	03/03/98	Matrix:	Water
Client Sample ID:	HWPW-MW-10B-1SA98		Date Received:	03/05/98		
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Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#
Benzo(a)anthracene	ND	ug/L	10	03/16/98	VHEB	56-55-3
Chrysene	ND	ug/L	10	03/16/98	VHEB	218-01-9
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/16/98	VHEB	117-81-7
Benzo(a)pyrene	ND	ug/L	10	03/16/98	VHEB	50-32-8
1,2-Diphenylhydrazine	ND	ug/L	10	03/16/98	VHEB	122-66-7
Nitrobenzene-d5 (S)	47	‡		03/16/98	VHEB	4165-60-0
2-Fluorobiphenyl (S)	59	‡		03/16/98	VHEB	321-60-8
Phenol-d6 (S)	34	‡		03/16/98	VHEB	13127-88-3
2-Fluorophenol (S)	22	‡		03/16/98	VHEB	367-12-4
2,4,6-Tribromophenol (S)	51	‡		03/16/98	VHEB	118-79-6
Terphenyl-d14 (S)	74	‡		03/16/98	VHEB	1718-51-0
Date Extracted				03/10/98		

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Pace Project Number: 851674

Client Project ID: HWPW

Pace Sample No:	85173870	Date Collected:	03/03/98	Matrix:	Water
Client Sample ID:	HWPW-MW-11A-1SA98	Date Received:	03/05/98		

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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GC/MS -- VOA

GC/MS VOCs, RCRA	Method: EPA 8260		Prep Method: EPA 8260	
Methylene Chloride	ND	ug/L	5	03/16/98 NZAI 75-09-2
Benzene	ND	ug/L	5	03/16/98 NZAI 71-43-2
1,2-Dichloroethane	ND	ug/L	5	03/16/98 NZAI 107-06-2
Toluene	ND	ug/L	5	03/16/98 NZAI 108-88-3
Chlorobenzene	ND	ug/L	5	03/16/98 NZAI 108-90-7
Ethylbenzene	ND	ug/L	5	03/16/98 NZAI 100-41-4
Xylene (Total)	6.0	ug/L	5	03/16/98 NZAI 1330-20-7
Dibromofluoromethane (S)	102	‡		03/16/98 NZAI 1868-53-7
Toluene-d8 (S)	96	‡		03/16/98 NZAI 2037-26-5
4-Bromofluorobenzene (S)	96	‡		03/16/98 NZAI 460-00-4

GC/MS -- Semivolatile

Semivolatile Organics, Water	Method: EPA 8270		Prep Method: EPA 3520	
Phenol	ND	ug/L	10	03/16/98 VHEB 108-95-2
Nitrobenzene	ND	ug/L	10	03/16/98 VHEB 98-95-3
2,4-Dimethylphenol	ND	ug/L	10	03/16/98 VHEB 105-67-9
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/16/98 VHEB 111-91-1
Naphthalene	ND	ug/L	10	03/16/98 VHEB 91-20-3
2-Methylnaphthalene	ND	ug/L	10	03/16/98 VHEB 91-57-6
2-Chloronaphthalene	ND	ug/L	10	03/16/98 VHEB 91-58-7
Acenaphthylene	ND	ug/L	10	03/16/98 VHEB 208-96-8
2,6-Dinitrotoluene	ND	ug/L	10	03/16/98 VHEB 606-20-2
Acenaphthene	63	ug/L	10	03/16/98 VHEB 83-32-9
4-Nitrophenol	ND	ug/L	50	03/16/98 VHEB 100-02-7
Dibenzofuran	17	ug/L	10	03/16/98 VHEB 132-64-9
2,4-Dinitrotoluene	23	ug/L	10	03/16/98 VHEB 121-14-2
Fluorene	23	ug/L	10	03/16/98 VHEB 86-73-7
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/16/98 VHEB 534-52-1
N-Nitrosodiphenylamine	ND	ug/L	10	03/16/98 VHEB 86-30-6
Pentachlorophenol	ND	ug/L	50	03/16/98 VHEB 87-86-5
Phenanthrene	ND	ug/L	10	03/16/98 VHEB 85-01-8
Anthracene	ND	ug/L	10	03/16/98 VHEB 120-12-7
Di-n-butylphthalate	ND	ug/L	10	03/16/98 VHEB 84-74-2
Fluoranthene	ND	ug/L	10	03/16/98 VHEB 206-44-0
Pyrene	ND	ug/L	10	03/16/98 VHEB 129-00-0

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No:	85173870	Date Collected:	03/03/98	Matrix:	Water
Client Sample ID:	HWPW-MW-11A-1SA98	Date Received:	03/05/98		
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Parameters	Results	Units	PRL	Analyzed	Analyst
Benzo(a)anthracene	ND	ug/L	10	03/16/98	VHEB
Chrysene	ND	ug/L	10	03/16/98	VHEB
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/16/98	VHEB
Benzo(a)pyrene	ND	ug/L	10	03/16/98	VHEB
1,2-Diphenylhydrazine	ND	ug/L	10	03/16/98	VHEB
Nitrobenzene-d5 (S)	54	t		03/16/98	VHEB
2-Fluorobiphenyl (S)	68	t		03/16/98	VHEB
Phenol-d6 (S)	38	t		03/16/98	VHEB
2-Fluorophenol (S)	28	t		03/16/98	VHEB
2,4,6-Tribromophenol (S)	61	t		03/16/98	VHEB
Terphenyl-d14 (S)	65	t		03/16/98	VHEB
Date Extracted				03/10/98	

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Pace Project Number: 851674

Client Project ID: HWPW

Pace Sample No.	85173896	Date Collected:	03/03/98	Matrix:	Water
Client Sample ID:	HWPW-MW-11B-1SA98	Date Received:	03/05/98		

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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GC/MS -- VOA

GC/MS VOCs, RCRA	Method: EPA 8260		Prep Method: EPA 8260			
Methylene Chloride	ND	ug/L	5	03/16/98	NZAI	75-09-2
Benzene	ND	ug/L	5	03/16/98	NZAI	71-43-2
1,2-Dichloroethane	ND	ug/L	5	03/16/98	NZAI	107-06-2
Toluene	ND	ug/L	5	03/16/98	NZAI	108-88-3
Chlorobenzene	ND	ug/L	5	03/16/98	NZAI	108-90-7
Ethylbenzene	ND	ug/L	5	03/16/98	NZAI	100-41-4
Xylene (Total)	ND	ug/L	5	03/16/98	NZAI	1330-20-7
Dibromofluoromethane (S)	96	‡		03/16/98	NZAI	1868-53-7
Toluene-d8 (S)	96	‡		03/16/98	NZAI	2037-26-5
4-Bromofluorobenzene (S)	102	‡		03/16/98	NZAI	460-00-4

GC/MS -- Semi-VOA

Semivolatile Organics, Water	Method: EPA 8270		Prep Method: EPA 3520			
Phenol	ND	ug/L	10	03/23/98	VHEB	108-95-2
Nitrobenzene	ND	ug/L	10	03/23/98	VHEB	98-95-3
2,4-Dimethylphenol	ND	ug/L	10	03/23/98	VHEB	105-67-9
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/23/98	VHEB	111-91-1
Naphthalene	ND	ug/L	10	03/23/98	VHEB	91-20-3
2-Methylnaphthalene	ND	ug/L	10	03/23/98	VHEB	91-57-6
2-Chloronaphthalene	ND	ug/L	10	03/23/98	VHEB	91-58-7
Acenaphthylene	ND	ug/L	10	03/23/98	VHEB	208-96-8
2,6-Dinitrotoluene	ND	ug/L	10	03/23/98	VHEB	606-20-2
Acenaphthene	ND	ug/L	10	03/23/98	VHEB	83-32-9
4-Nitrophenol	ND	ug/L	50	03/23/98	VHEB	100-02-7
Dibenzofuran	ND	ug/L	10	03/23/98	VHEB	132-64-9
2,4-Dinitrotoluene	ND	ug/L	10	03/23/98	VHEB	121-14-2
Fluorene	ND	ug/L	10	03/23/98	VHEB	86-73-7
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/23/98	VHEB	534-52-1
N-Nitrosodiphenylamine	ND	ug/L	10	03/23/98	VHEB	86-30-6
Pentachlorophenol	ND	ug/L	50	03/23/98	VHEB	87-86-5
Phenanthrene	ND	ug/L	10	03/23/98	VHEB	85-01-8
Anthracene	ND	ug/L	10	03/23/98	VHEB	120-12-7
Di-n-butylphthalate	ND	ug/L	10	03/23/98	VHEB	84-74-2
Fluoranthene	ND	ug/L	10	03/23/98	VHEB	206-44-0
Pyrene	ND	ug/L	10	03/23/98	VHEB	129-00-0

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DATE: 04/01/98  
PAGE: 24

Pace Project Number: 851674

Client Project ID: HWPW

Pace Sample No:	85173896	Date Collected:	03/03/98	Matrix:	Water
Client Sample ID:	HWPW-MW-11B-ISA98	Date Received:	03/05/98		

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/23/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/23/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/23/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/23/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/23/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	26	‡		03/23/98	VHEB	4165-60-0	2
2-Fluorobiphenyl (S)	38	‡		03/23/98	VHEB	321-60-8	2
Phenol-d6 (S)	4	‡		03/23/98	VHEB	13127-88-3	2
2-Fluorophenol (S)	4	‡		03/23/98	VHEB	367-12-4	2
2,4,6-Tribromophenol (S)	22	‡		03/23/98	VHEB	118-79-6	
Terphenyl-d14 (S)	52	‡		03/23/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173904 Date Collected: 03/04/98 Matrix: Water  
Client Sample ID: HWPW-MW-999-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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GC/MS -- VOA

GC/MS VOCs, RCRA	Method: EPA 8260	Prep Method: EPA 8260
Methylene Chloride	ND ug/L 5	03/16/98 NZAI 75-09-2
Benzene	ND ug/L 5	03/16/98 NZAI 71-43-2
1,2-Dichloroethane	ND ug/L 5	03/16/98 NZAI 107-06-2
Toluene	ND ug/L 5	03/16/98 NZAI 108-88-3
Chlorobenzene	ND ug/L 5	03/16/98 NZAI 108-90-7
Ethylbenzene	ND ug/L 5	03/16/98 NZAI 100-41-4
Xylene (Total)	ND ug/L 5	03/16/98 NZAI 1330-20-7
Dibromofluoromethane (S)	104 ‰	03/16/98 NZAI 1868-53-7
Toluene-d8 (S)	98 ‰	03/16/98 NZAI 2037-26-5
4-Bromofluorobenzene (S)	100 ‰	03/16/98 NZAI 460-00-4

GC/MS -- Semi-VOA

Semivolatile Organics, Water	Method: EPA 8270	Prep Method: EPA 3520
Phenol	ND ug/L 10	03/16/98 VHEB 108-95-2
Nitrobenzene	ND ug/L 10	03/16/98 VHEB 98-95-3
2,4-Dimethylphenol	ND ug/L 10	03/16/98 VHEB 105-67-9
bis(2-Chloroethoxy)methane	ND ug/L 10	03/16/98 VHEB 111-91-1
Naphthalene	7800 ug/L 100	03/16/98 VHEB 91-20-3
2-Methylnaphthalene	25 ug/L 10	03/16/98 VHEB 91-57-6
2-Chloronaphthalene	ND ug/L 10	03/16/98 VHEB 91-58-7
Acenaphthylene	ND ug/L 10	03/16/98 VHEB 208-96-8
2,6-Dinitrotoluene	ND ug/L 10	03/16/98 VHEB 606-20-2
Acenaphthene	120 ug/L 10	03/16/98 VHEB 83-32-9
4-Nitrophenol	ND ug/L 50	03/16/98 VHEB 100-02-7
Dibenzofuran	50 ug/L 10	03/16/98 VHEB 132-64-9
2,4-Dinitrotoluene	ND ug/L 10	03/16/98 VHEB 121-14-2
Fluorene	74 ug/L 10	03/16/98 VHEB 86-73-7
4,6-Dinitro-2-methylphenol	ND ug/L 50	03/16/98 VHEB 534-52-1
N-Nitrosodiphenylamine	ND ug/L 10	03/16/98 VHEB 86-30-6
Pentachlorophenol	ND ug/L 50	03/16/98 VHEB 87-86-5
Phenanthrene	34 ug/L 10	03/16/98 VHEB 85-01-8
Anthracene	ND ug/L 10	03/16/98 VHEB 120-12-7
D1-n-butylphthalate	ND ug/L 10	03/16/98 VHEB 84-74-2
Fluoranthene	ND ug/L 10	03/16/98 VHEB 206-44-0
Pyrene	ND ug/L 10	03/16/98 VHEB 129-00-0

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Pace Project Number: 851674

Client Project ID: HWPW

Pace Sample No:	85173904		Date Collected:	03/04/98	Matrix:	Water
Client Sample ID:	HWPW-MW-999-1SA98		Date Received:	03/05/98		
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Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#
Benzo(a)anthracene	ND	ug/L	10	03/16/98	VHEB	56-55-3
Chrysene	ND	ug/L	10	03/16/98	VHEB	218-01-9
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/16/98	VHEB	117-81-7
Benzo(a)pyrene	ND	ug/L	10	03/16/98	VHEB	50-32-8
1,2-Diphenylhydrazine	ND	ug/L	10	03/16/98	VHEB	122-66-7
Nitrobenzene-d5 (S)	61	‡		03/16/98	VHEB	4165-60-0
2-Fluorobiphenyl (S)	62	‡		03/16/98	VHEB	321-60-8
Phenol-d6 (S)	30	‡		03/16/98	VHEB	13127-88-3
2-Fluorophenol (S)	18	‡		03/16/98	VHEB	367-12-4
2,4,6-Tribromophenol (S)	70	‡		03/16/98	VHEB	118-79-6
Terphenyl-d14 (S)	120	‡		03/16/98	VHEB	1718-51-0
Date Extracted				03/10/98		

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No:	85173920	Date Collected:	03/04/98	Matrix:	Water
Client Sample ID:	HWPW-P-10-1SA98	Date Received:	03/05/98		

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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GC/MS -- VOA

GC/MS VOCs, RCRA	Method:	EPA 8260		Prep Method:	EPA 8260	
Methylene Chloride	ND	ug/L	5	03/16/98	NZAI	75-09-2
Benzene	ND	ug/L	5	03/16/98	NZAI	71-43-2
1,2-Dichloroethane	ND	ug/L	5	03/16/98	NZAI	107-06-2
Toluene	ND	ug/L	5	03/16/98	NZAI	108-88-3
Chlorobenzene	ND	ug/L	5	03/16/98	NZAI	108-90-7
Ethylbenzene	ND	ug/L	5	03/16/98	NZAI	100-41-4
Xylene (Total)	ND	ug/L	5	03/16/98	NZAI	1330-20-7
Dibromofluoromethane (S)	106	t		03/16/98	NZAI	1868-53-7
Toluene-d8 (S)	96	t		03/16/98	NZAI	2037-26-5
4-Bromoanisole (S)	98	t		03/16/98	NZAI	460-00-4

GC/MS -- Semi-VOA

Semivolatile Organics, Water	Method:	EPA 8270		Prep Method:	EPA 3520	
Phenol	ND	ug/L	10	03/16/98	VHEB	108-95-2
Nitrobenzene	ND	ug/L	10	03/16/98	VHEB	98-95-3
2,4-Dimethylphenol	ND	ug/L	10	03/16/98	VHEB	105-67-9
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/16/98	VHEB	111-91-1
Naphthalene	5800	ug/L	100	03/16/98	VHEB	91-20-3
2-Methylnaphthalene	18	ug/L	10	03/16/98	VHEB	91-57-6
2-Chloronaphthalene	ND	ug/L	10	03/16/98	VHEB	91-58-7
Acenaphthylene	ND	ug/L	10	03/16/98	VHEB	208-96-8
2,6-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB	606-20-2
Acenaphthene	89	ug/L	10	03/16/98	VHEB	83-32-9
4-Nitrophenol	ND	ug/L	50	03/16/98	VHEB	100-02-7
Dibenzofuran	38	ug/L	10	03/16/98	VHEB	132-64-9
2,4-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB	121-14-2
Fluorene	60	ug/L	10	03/16/98	VHEB	86-73-7
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/16/98	VHEB	534-52-1
N-Nitrosodiphenylamine	ND	ug/L	10	03/16/98	VHEB	86-30-6
Pentachlorophenol	ND	ug/L	50	03/16/98	VHEB	87-86-5
Phenanthrene	28	ug/L	10	03/16/98	VHEB	85-01-8
Anthracene	ND	ug/L	10	03/16/98	VHEB	120-12-7
Di-n-butylphthalate	ND	ug/L	10	03/16/98	VHEB	84-74-2
Fluoranthene	ND	ug/L	10	03/16/98	VHEB	206-44-0
Pyrene	ND	ug/L	10	03/16/98	VHEB	129-00-0

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No.: 85173920  
Client Sample ID: HWPW-P-10-ISA98

Date Collected: 03/04/98  
Date Received: 03/05/98

Matrix: Water

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/16/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/16/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/16/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/16/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/16/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	46	‡		03/16/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	47	‡		03/16/98	VHEB	321-60-8	
Phenol-d6 (S)	22	‡		03/16/98	VHEB	13127-88-3	
2-Fluorophenol (S)	14	‡		03/16/98	VHEB	367-12-4	1
2,4,6-Tribromophenol (S)	55	‡		03/16/98	VHEB	118-79-6	
Terphenyl-d14 (S)	95	‡		03/16/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

## REPORT OF LABORATORY ANALYSIS

DATE: 04/01/98  
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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No:	85173938	Date Collected:	03/04/98	Matrix:	Water
Client Sample ID:	HWPW-P-11-1SA98	Date Received:	03/05/98		

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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GC/MS -- VOA

GC/MS VOCs, RCRA	Method: EPA 8260			Prep Method: EPA 8260		
Methylene Chloride	ND	ug/L	5	03/16/98	NZAI	75-09-2
Benzene	ND	ug/L	5	03/16/98	NZAI	71-43-2
1,2-Dichloroethane	ND	ug/L	5	03/16/98	NZAI	107-06-2
Toluene	ND	ug/L	5	03/16/98	NZAI	108-88-3
Chlorobenzene	ND	ug/L	5	03/16/98	NZAI	108-90-7
Ethylbenzene	ND	ug/L	5	03/16/98	NZAI	100-41-4
Xylene (Total)	ND	ug/L	5	03/16/98	NZAI	1330-20-7
Dibromofluoromethane (S)	108	‡		03/16/98	NZAI	1868-53-7
Toluene-d8 (S)	98	‡		03/16/98	NZAI	2037-26-5
4-Bromofluorobenzene (S)	100	‡		03/16/98	NZAI	460-00-4

GC/MS -- Semi-VOA

Semivolatile Organics, Water	Method: EPA 8270			Prep Method: EPA 3520		
Phenol	ND	ug/L	10	03/16/98	VHEB	108-95-2
Nitrobenzene	ND	ug/L	10	03/16/98	VHEB	98-95-3
2,4-Dimethylphenol	ND	ug/L	10	03/16/98	VHEB	105-67-9
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/16/98	VHEB	111-91-1
Naphthalene	ND	ug/L	10	03/16/98	VHEB	91-20-3
2-Methylnaphthalene	ND	ug/L	10	03/16/98	VHEB	91-57-6
2-Chloronaphthalene	ND	ug/L	10	03/16/98	VHEB	91-58-7
Acenaphthylene	ND	ug/L	10	03/16/98	VHEB	208-96-8
2,6-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB	606-20-2
Acenaphthene	23	ug/L	10	03/16/98	VHEB	83-32-9
4-Nitrophenol	ND	ug/L	50	03/16/98	VHEB	100-02-7
Dibenzofuran	ND	ug/L	10	03/16/98	VHEB	132-64-9
2,4-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB	121-14-2
Fluorene	14	ug/L	10	03/16/98	VHEB	86-73-7
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/16/98	VHEB	534-52-1
N-Nitrosodiphenylamine	ND	ug/L	10	03/16/98	VHEB	86-30-6
Pentachlorophenol	ND	ug/L	50	03/16/98	VHEB	87-86-5
Phenanthrene	ND	ug/L	10	03/16/98	VHEB	85-01-8
Anthracene	ND	ug/L	10	03/16/98	VHEB	120-12-7
Di-n-butylphthalate	ND	ug/L	10	03/16/98	VHEB	84-74-2
Fluoranthene	ND	ug/L	10	03/16/98	VHEB	206-44-0
Pyrene	ND	ug/L	10	03/16/98	VHEB	129-00-0

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No:	85173938		Date Collected:	03/04/98	Matrix:	Water
Client Sample ID:	HWPW-P-11-1SA98		Date Received:	03/05/98		
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Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#
Benzo(a)anthracene	ND	ug/L	10	03/16/98	VHEB	56-55-3
Chrysene	ND	ug/L	10	03/16/98	VHEB	218-01-9
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/16/98	VHEB	117-81-7
Benzo(a)pyrene	ND	ug/L	10	03/16/98	VHEB	50-32-8
1,2-Diphenylhydrazine	ND	ug/L	10	03/16/98	VHEB	122-66-7
Nitrobenzene-d5 (S)	44	‡		03/16/98	VHEB	4165-60-0
2-Fluorobiphenyl (S)	51	‡		03/16/98	VHEB	321-60-8
Phenol-d6 (S)	24	‡		03/16/98	VHEB	13127-88-3
2-Fluorophenol (S)	18	‡		03/16/98	VHEB	367-12-4
2,4,6-Tribromophenol (S)	55	‡		03/16/98	VHEB	118-79-6
Terphenyl-d14 (S)	74	‡		03/16/98	VHEB	1718-51-0
Date Extracted				03/10/98		

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Pace Project Number: 851674

Client Project ID: HWPW

Pace Sample No:	85173946	Date Collected:	03/04/98	Matrix:	Water
Client Sample ID:	HWPW-P-12-1SA98	Date Received:	03/05/98		

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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GC/MS -- VOA

GC/MS VOCs. RCRA	Method: EPA 8260			Prep Method: EPA 8260		
Methylene Chloride	ND	ug/L	5	03/17/98	NZAI	75-09-2
Benzene	ND	ug/L	5	03/17/98	NZAI	71-43-2
1,2-Dichloroethane	ND	ug/L	5	03/17/98	NZAI	107-06-2
Toluene	ND	ug/L	5	03/17/98	NZAI	108-88-3
Chlorobenzene	ND	ug/L	5	03/17/98	NZAI	108-90-7
Ethylbenzene	ND	ug/L	5	03/17/98	NZAI	100-41-4
Xylene (Total)	ND	ug/L	5	03/17/98	NZAI	1330-20-7
Dibromofluoromethane (S)	101	‡		03/17/98	NZAI	1868-53-7
Toluene-d8 (S)	97	‡		03/17/98	NZAI	2037-26-5
4-Bromofluorobenzene (S)	101	‡		03/17/98	NZAI	460-00-4

GC/MS -- Semi-VOA

Semivolatile Organics. Water	Method: EPA 8270			Prep Method: EPA 3520		
Phenol	ND	ug/L	10	03/20/98	VHEB	108-95-2
Nitrobenzene	ND	ug/L	10	03/20/98	VHEB	98-95-3
2,4-Dimethylphenol	ND	ug/L	10	03/20/98	VHEB	105-67-9
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/20/98	VHEB	111-91-1
Naphthalene	ND	ug/L	10	03/20/98	VHEB	91-20-3
2-Methylnaphthalene	ND	ug/L	10	03/20/98	VHEB	91-57-6
2-Chloronaphthalene	ND	ug/L	10	03/20/98	VHEB	91-58-7
Acenaphthylene	ND	ug/L	10	03/20/98	VHEB	208-96-8
2,6-Dinitrotoluene	ND	ug/L	10	03/20/98	VHEB	606-20-2
Acenaphthene	ND	ug/L	10	03/20/98	VHEB	83-32-9
4-Nitrophenol	ND	ug/L	50	03/20/98	VHEB	100-02-7
Dibenzofuran	ND	ug/L	10	03/20/98	VHEB	132-64-9
2,4-Dinitrotoluene	ND	ug/L	10	03/20/98	VHEB	121-14-2
Fluorene	ND	ug/L	10	03/20/98	VHEB	86-73-7
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/20/98	VHEB	534-52-1
N-Nitrosodiphenylamine	ND	ug/L	10	03/20/98	VHEB	86-30-6
Pentachlorophenol	ND	ug/L	50	03/20/98	VHEB	87-86-5
Phenanthrene	ND	ug/L	10	03/20/98	VHEB	85-01-8
Anthracene	ND	ug/L	10	03/20/98	VHEB	120-12-7
Di-n-butylphthalate	ND	ug/L	10	03/20/98	VHEB	84-74-2
Fluoranthene	ND	ug/L	10	03/20/98	VHEB	206-44-0
Pyrene	ND	ug/L	10	03/20/98	VHEB	129-00-0

## REPORT OF LABORATORY ANALYSIS

# Pace Analytical

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Tel: 281-488-1810  
Fax: 281-488-4661

DATE: 04/01/98  
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Pace Project Number: 851674

Client Project ID: HWPW

Pace Sample No:	85173946		Date Collected:	03/04/98	Matrix:	Water
Client Sample ID:	HWPW-P-12-1SA98		Date Received:	03/05/98		
<hr/>						
Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#
Benzo(a)anthracene	ND	ug/L	10	03/20/98	VHEB	56-55-3
Chrysene	ND	ug/L	10	03/20/98	VHEB	218-01-9
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/20/98	VHEB	117-81-7
Benzo(a)pyrene	ND	ug/L	10	03/20/98	VHEB	50-32-8
1,2-Diphenylhydrazine	ND	ug/L	10	03/20/98	VHEB	122-66-7
Nitrobenzene-d5 (S)	55	‡		03/20/98	VHEB	4165-60-0
2-Fluorobiphenyl (S)	72	‡		03/20/98	VHEB	321-60-8
Phenol-d6 (S)	6	‡		03/20/98	VHEB	13127-88-3
2-Fluorophenol (S)	8	‡		03/20/98	VHEB	367-12-4
2,4,6-Tribromophenol (S)	34	‡		03/20/98	VHEB	118-79-6
Terphenyl-d14 (S)	68	‡		03/20/98	VHEB	1718-51-0
Date Extracted				03/10/98		

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DATE: 04/01/98  
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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No:	85173953	Date Collected:	03/04/98	Matrix:	Water
Client Sample ID:	HWPW-EB-01-ISA98	Date Received:	03/05/98		

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
------------	---------	-------	-----	----------	---------	------	-----------

GC/MS .. VOA

GC/MS VOCs, RCRA	Method:	EPA 8260	Prep Method:	EPA 8260
Methylene Chloride	ND	ug/L	5	03/16/98 NZAI 75-09-2
Benzene	ND	ug/L	5	03/16/98 NZAI 71-43-2
1,2-Dichloroethane	ND	ug/L	5	03/16/98 NZAI 107-06-2
Toluene	ND	ug/L	5	03/16/98 NZAI 108-88-3
Chlorobenzene	ND	ug/L	5	03/16/98 NZAI 108-90-7
Ethylbenzene	ND	ug/L	5	03/16/98 NZAI 100-41-4
Xylene (Total)	ND	ug/L	5	03/16/98 NZAI 1330-20-7
Dibromofluoromethane (S)	106	‡		03/16/98 NZAI 1868-53-7
Toluene-d8 (S)	96	‡		03/16/98 NZAI 2037-26-5
4-Bromo fluorobenzene (S)	98	‡		03/16/98 NZAI 460-00-4

GC/MS .. Semi-VOA

Semivolatile Organics, Water	Method:	EPA 8270	Prep Method:	EPA 3520
Phenol	ND	ug/L	10	03/23/98 VHEB 108-95-2
Nitrobenzene	ND	ug/L	10	03/23/98 VHEB 98-95-3
2,4-Dimethylphenol	ND	ug/L	10	03/23/98 VHEB 105-67-9
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/23/98 VHEB 111-91-1
Naphthalene	ND	ug/L	10	03/23/98 VHEB 91-20-3
2-Methylnaphthalene	ND	ug/L	10	03/23/98 VHEB 91-57-6
2-Chloronaphthalene	ND	ug/L	10	03/23/98 VHEB 91-58-7
Acenaphthylene	ND	ug/L	10	03/23/98 VHEB 208-96-8
2,6-Dinitrotoluene	ND	ug/L	10	03/23/98 VHEB 606-20-2
Acenaphthene	ND	ug/L	10	03/23/98 VHEB 83-32-9
4-Nitrophenol	ND	ug/L	50	03/23/98 VHEB 100-02-7
Dibenzofuran	ND	ug/L	10	03/23/98 VHEB 132-64-9
2,4-Dinitrotoluene	ND	ug/L	10	03/23/98 VHEB 121-14-2
Fluorene	ND	ug/L	10	03/23/98 VHEB 86-73-7
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/23/98 VHEB 534-52-1
N-Nitrosodiphenylamine	ND	ug/L	10	03/23/98 VHEB 86-30-6
Pentachlorophenol	ND	ug/L	50	03/23/98 VHEB 87-86-5
Phenanthrene	ND	ug/L	10	03/23/98 VHEB 85-01-8
Anthracene	ND	ug/L	10	03/23/98 VHEB 120-12-7
Di-n-butylphthalate	ND	ug/L	10	03/23/98 VHEB 84-74-2
Fluoranthene	ND	ug/L	10	03/23/98 VHEB 206-44-0
Pyrene	ND	ug/L	10	03/23/98 VHEB 129-00-0

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No:	85173953		Date Collected:	03/04/98	Matrix:	Water
Client Sample ID:	HWPW-EB-01-1SA98		Date Received:	03/05/98		
<hr/>						
Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#
Benzo(a)anthracene	ND	ug/L	10	03/23/98	VHEB	56-55-3
Chrysene	ND	ug/L	10	03/23/98	VHEB	218-01-9
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/23/98	VHEB	117-81-7
Benzo(a)pyrene	ND	ug/L	10	03/23/98	VHEB	50-32-8
1,2-Diphenylhydrazine	ND	ug/L	10	03/23/98	VHEB	122-66-7
Nitrobenzene-d5 (S)	41	‡		03/23/98	VHEB	4165-60-0
2-Fluorobiphenyl (S)	49	‡		03/23/98	VHEB	321-60-8
Phenol-d6 (S)	9	‡		03/23/98	VHEB	13127-88-3
2-Fluorophenol (S)	12	‡		03/23/98	VHEB	367-12-4
2,4,6-Tribromophenol (S)	18	‡		03/23/98	VHEB	118-79-6
Terphenyl-d14 (S)	68	‡		03/23/98	VHEB	1718-51-0
Date Extracted				03/10/98		

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173961 Date Collected: 03/04/98 Matrix: Water  
Client Sample ID: HWPW-TB-01-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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GC/MS -- VOA

GC/MS VOCs, RCRA	Method: EPA 8260			Prep Method: EPA 8260		
Methylene Chloride	ND	ug/L	S	03/16/98	NZAI	75-09-2
Benzene	ND	ug/L	S	03/16/98	NZAI	71-43-2
1,2-Dichloroethane	ND	ug/L	S	03/16/98	NZAI	107-06-2
Toluene	ND	ug/L	S	03/16/98	NZAI	108-88-3
Chlorobenzene	ND	ug/L	S	03/16/98	NZAI	108-90-7
Ethylbenzene	ND	ug/L	S	03/16/98	NZAI	100-41-4
Xylene (Total)	ND	ug/L	S	03/16/98	NZAI	1330-20-7
Dibromofluoromethane (S)	100	#		03/16/98	NZAI	1868-53-7
Toluene-d8 (S)	98	#		03/16/98	NZAI	2037-26-5
4-Bromofluorobenzene (S)	100	#		03/16/98	NZAI	460-00-4

## REPORT OF LABORATORY ANALYSIS

Pace Project Number: 851674  
Client Project ID: HWPW

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## PARAMETER FOOTNOTES

- [D] Not Detected
- [NC] Not Calculable
- [PRL] Pace Reporting Limit
- [S] Surrogate
- [1] Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid's surrogate.
- [2] The surrogate recovery was outside QC acceptance limits due to matrix interference.
- [3] Surrogate recovery could not be quantified due to matrix interference.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

DATE: 04/01/98

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ARM-Southwest, Inc.  
16300 Katy Fwy, Suite 300  
Houston, TX 77094

Pace Project Number: 851674  
Client Project ID: HWPW

Attn: Mr. Tom Pacioni  
Phone: 281-579-8999

QC Batch ID: 3663

Analysis Method: EPA 8270

Associated Pace Samples:

QC Batch Method: EPA 3520

Analysis Description: Semivolatile Organics, Water

85173763	85173771	85173789	85173797	85173805
85173813	85173839	85173847	85173854	85173862
85173870	85173896	85173904	85173920	85173938
85173946	85173953			

METHOD BLANK: 85180149

Associated Pace Samples:

85173763	85173771	85173789	85173797	85173805	85173813	85173839
85173847	85173854	85173862	85173870	85173896	85173904	85173920
85173938	85173946	85173953				

### Method

#### Blank

Parameter	Units	Result	PRL	Footnotes
phenol	ug/L	ND	10	
nitrobenzene	ug/L	ND	10	
2,4-Dimethylphenol	ug/L	ND	10	
2-is(2-Chloroethoxy)methane	ug/L	ND	10	
naphthalene	ug/L	ND	10	
2-Methylnaphthalene	ug/L	ND	10	
2-Chloronaphthalene	ug/L	ND	10	
acenaphthylene	ug/L	ND	10	
2,6-Dinitrotoluene	ug/L	ND	10	
Acenaphthene	ug/L	ND	10	
4-Nitrophenol	ug/L	ND	50	
benzofuran	ug/L	ND	10	
2,4-Dinitrotoluene	ug/L	ND	10	
fluorene	ug/L	ND	10	
2,6-Dinitro-2-methylphenol	ug/L	ND	50	
N-Nitrosodiphenylamine	ug/L	ND	10	
Pentachlorophenol	ug/L	ND	50	
phenanthrene	ug/L	ND	10	
anthracene	ug/L	ND	10	
Di-n-butylphthalate	ug/L	ND	10	

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Pace Project Number: 851674  
Client Project ID: HWPW

METHOD BLANK: 85180149

Associated Pace Samples:

85173763	85173771	85173789	85173797	85173805	85173813	85173839
85173847	85173854	85173862	85173870	85173896	85173904	85173920
85173938	85173946	85173953				

### Method

### Blank

Parameter	Units	Result	PRL	Footnotes
Fluoranthene	ug/L	ND	10	
Pyrene	ug/L	ND	10	
Benzo(a)anthracene	ug/L	ND	10	
Chrysene	ug/L	ND	10	
bis(2-Ethylhexyl)phthalate	ug/L	ND	10	
Benzo(a)pyrene	ug/L	ND	10	
2-Diphenylhydrazine	ug/L	ND	10	
Nitrobenzene-d5 (S)	#	53		
2-Fluorobiphenyl (S)	#	54		
Phenol-d6 (S)	#	30		
2-Fluorophenol (S)	#	24		
2,4,6-Tribromophenol (S)	#	36		
Terphenyl-d14 (S)	#	96		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 85186260 85186278

Parameter	Units	85173763	Spike Conc.	Matrix Spike Result	Sp. Dup. % Rec	Matrix Result	Spike Dup. % Rec	Dup RPD	Footnotes
Phenol	ug/L	0	200	81.00	40.5	60.00	30.0	30	
Acenaphthene	ug/L	94.00	100	162.0	68.0	155.0	61.0	11	
4-Nitrophenol	ug/L	0	200	165.0	82.5	135.0	67.5	20	
2,4-Dinitrotoluene	ug/L	0	100	119.0	119	114.0	114	4	
1,4-Dichlorophenol	ug/L	0	200	206.0	103	207.0	104	0	
Pyrene	ug/L	0	100	86.00	86.0	87.00	87.0	1	
Nitrobenzene-d5 (S)					53		38		
2-Fluorobiphenyl (S)					58		50		
Phenol-d6 (S)					32		22		
2-Fluorophenol (S)					26		14		1
2,4,6-Tribromophenol (S)					56		54		
Terphenyl-d14 (S)					73		80		

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DATE: 04/01/98  
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Pace Project Number: 851674  
Client Project ID: HWPW

LABORATORY CONTROL SAMPLE: 85180156

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Phenol	ug/L	200	140.0	70.0	
Acenaphthene	ug/L	100	74.00	74.0	
4-Nitrophenol	ug/L	200	29.00	14.5	
2,4-Dinitrotoluene	ug/L	100	93.00	93.0	
Pentachlorophenol	ug/L	200	280.0	140	
Pyrene	ug/L	100	92.00	92.0	

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## QUALITY CONTROL DATA

DATE: 04/01/98  
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ERM-Southwest, Inc.  
16300 Katy Fwy, Suite 300  
Houston, TX 77094

Pace Project Number: 851674  
Client Project ID: HWPW

Attn: Mr. Tom Pacioni  
Phone: 281-579-8999

QC Batch ID: 3824  
Analysis Method: EPA 8260  
Associated Pace Samples: 85173920      85173961

METHOD BLANK: 85191757

Associated Pace Samples:

	85173920	85173961	Method	
Parameter	Units	Result	PRL	Footnotes
Methylene Chloride	ug/L	ND	5	
Benzene	ug/L	ND	5	
1,2-Dichloroethane	ug/L	ND	5	
Toluene	ug/L	ND	5	
Chlorobenzene	ug/L	ND	5	
Methylbenzene	ug/L	ND	5	
Cyclohexene (Total)	ug/L	ND	5	
Dibromofluoromethane (S)	#	92		
Toluene-d8 (S)	#	100		
4-Bromofluorobenzene (S)	#	102		

Parameter	Units	85174977	Spike Conc.	Matrix Spike Result	Sp. Dup. % Rec	Matrix Spike Result	Sp. Dup. % Rec	RPD	Footnotes
Benzene	ug/L	0	50	49.29	98.6	46.32	92.6	6	
Toluene	ug/L	0	50	46.31	92.6	44.42	88.8	4	
Chlorobenzene	ug/L	0	50	44.30	88.6	44.28	88.6	0	
Dibromofluoromethane (S)					103		96		
Toluene-d8 (S)						94		96	
4-Bromofluorobenzene (S)						94		95	

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Pace Project Number: 851674  
Client Project ID: HWPW

LABORATORY CONTROL SAMPLE: 85190130

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	20	19.84	99.2	
Toluene	ug/L	20	18.75	93.8	
Chlorobenzene	ug/L	20	18.97	94.9	

LABORATORY CONTROL SAMPLE: 85191062

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	50	45.57	91.1	
Toluene	ug/L	50	45.37	90.7	
Chlorobenzene	ug/L	50	46.80	93.6	

LABORATORY CONTROL SAMPLE: 85191575

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	60	63.21	105	
Toluene	ug/L	60	63.51	106	
Chlorobenzene	ug/L	60	62.41	104	

LABORATORY CONTROL SAMPLE: 85191765

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	60	60.00	100	
Toluene	ug/L	60	54.00	90.0	
Chlorobenzene	ug/L	60	57.00	95.0	

LABORATORY CONTROL SAMPLE: 85200061

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	50	45.86	91.7	
Toluene	ug/L	50	42.06	84.1	
Chlorobenzene	ug/L	50	42.45	84.9	

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## QUALITY CONTROL DATA

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ERM-Southwest, Inc.  
16300 Katy Fwy, Suite 300  
Houston, TX 77094

Pace Project Number: 851674  
Client Project ID: HWPW

Attn: Mr. Tom Pacioni  
Phone: 281-579-8999

QC Batch ID: 3942  
Analysis Method: EPA 8260  
Associated Pace Samples:

QC Batch Method: EPA 8260  
Analysis Description: GC/MS VOCs, RCRA  
Associated Pace Samples: 85173805 85173839 85173847

METHOD BLANK: 85191666

Associated Pace Samples:

	85173805	85173839	85173847	Method	Blank	
Parameter	Units	Result	PRL			Footnotes
Methylene Chloride	ug/L	ND	5			
Benzene	ug/L	ND	5			
1,2-Dichloroethane	ug/L	ND	5			
Toluene	ug/L	ND	5			
Chlorobenzene	ug/L	ND	5			
Phenylbenzene	ug/L	ND	5			
Cyclohexene (Total)	ug/L	ND	5			
Dibromofluoromethane (S)	#	108				
Toluene-d8 (S)	#	96				
4-Bromofluorobenzene (S)	#	106				

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 85200509 85200517

Parameter	Units	85141935	Spike Conc.	Matrix Spike Result	Sp. Dup. % Rec	Matrix Spike Result	Sp. Dup. % Rec	RPD	Footnotes
Benzene	ug/L	0	40	39.52	98.8	42.46	106	7	
Toluene	ug/L	0	40	36.83	92.1	39.14	97.9	6	
Chlorobenzene	ug/L	0	40	35.14	87.9	37.29	93.2	6	
Dibromofluoromethane (S)					96		100		
Toluene-d8 (S)					97		98		
4-Bromofluorobenzene (S)					93		94		

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## QUALITY CONTROL DATA

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Pace Project Number: 851674  
Client Project ID: HWPW

### LABORATORY CONTROL SAMPLE: 85191591

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	50	56.00	112	
Toluene	ug/L	50	56.00	112	
Chlorobenzene	ug/L	50	57.00	114	

### LABORATORY CONTROL SAMPLE: 85191674

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	50	53.00	106	
Toluene	ug/L	50	50.00	100	
Chlorobenzene	ug/L	50	55.00	110	

### LABORATORY CONTROL SAMPLE: 85191716

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	50	48.11	96.2	
Toluene	ug/L	50	51.30	103	
Chlorobenzene	ug/L	50	49.50	99.0	

### LABORATORY CONTROL SAMPLE: 85200491

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	50	45.86	91.7	
Toluene	ug/L	50	42.06	84.1	
Chlorobenzene	ug/L	50	42.45	84.9	

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## QUALITY CONTROL DATA

DATE: 04/01/98  
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RM-Southwest, Inc.  
16300 Katy Fwy, Suite 300  
Houston, TX 77094

Pace Project Number: 851674  
Client Project ID: HWPW

Attn: Mr. Tom Pacioni  
Phone: 281-579-8999

QC Batch ID: 4107	QC Batch Method: EPA 8260
Analysis Method: EPA 8260	Analysis Description: GC/MS VOCs, RCRA
Associated Pace Samples:	85173789    85173797    85173813    85173854    85173862
	85173870    85173896    85173904    85173938    85173953

METHOD BLANK: 85199792

Associated Pace Samples:

85173789	85173797	85173813	85173854	85173862	85173870	85173896
85173904	85173938	85173953				

Parameter	Units	Result	PRL	Footnotes
Ethylene Chloride	ug/L	ND	5	
Benzene	ug/L	ND	5	
1,2-Dichloroethane	ug/L	ND	5	
Toluene	ug/L	ND	5	
Chlorobenzene	ug/L	ND	5	
Ethylbenzene	ug/L	ND	5	
Styrene (Total)	ug/L	ND	5	
Dibromofluoromethane (S)	#	90		
Toluene-d8 (S)	#	100		
4-Bromofluorobenzene (S)	#	98		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 85205615 85205623		Matrix	Matrix	Spike					
Parameter	Units	85158897	Spike Conc.	Result	% Rec	Sp. Dup. Result	% Rec	Dup RPD	Footnotes
Benzene	ug/L	0	30	30.73	102	27.17	90.6	12	
Toluene	ug/L	0	30	29.23	97.4	26.25	87.5	11	
Chlorobenzene	ug/L	0	30	28.26	94.2	25.61	85.4	10	
Dibromofluoromethane (S)				109			108		
Toluene-d8 (S)				98			99		
4-Bromofluorobenzene (S)				93			96		

## REPORT OF LABORATORY ANALYSIS

# Pace Analytical

Pace Analytical Services, Inc.

900 Gemini Avenue

Houston, TX 77058

Tel: 281-488-1810

Fax: 281-488-4661

## QUALITY CONTROL DATA

DATE: 04/01/98

PAGE: 45

Pace Project Number: 851674

Client Project ID: HWPW

LABORATORY CONTROL SAMPLE: 85199800

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	40	39.00	97.5	
Toluene	ug/L	40	33.00	82.5	
Chlorobenzene	ug/L	40	34.00	85.0	

LABORATORY CONTROL SAMPLE: 85199842

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	40	50.27	126	
Toluene	ug/L	40	46.14	115	
Chlorobenzene	ug/L	40	45.49	114	

LABORATORY CONTROL SAMPLE: 85205607

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	40	36.36	90.9	
Toluene	ug/L	40	34.63	86.6	
Chlorobenzene	ug/L	40	34.82	87.1	

## REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, Inc.

# Pace Analytical

Pace Analytical Services, Inc.  
900 Gemini Avenue  
Houston, TX 77058

Tel: 281-488-1810  
Fax: 281-488-4661

## QUALITY CONTROL DATA

DATE: 04/01/98  
PAGE: 46

ERM-Southwest, Inc.  
16300 Katy Fwy, Suite 300  
Houston, TX 77094

Pace Project Number: 851674  
Client Project ID: HWPW

Attn: Mr. Tom Pacioni  
Phone: 281-579-8999

QC Batch ID: 4108  
Analysis Method: EPA 8260  
Associated Pace Samples:

QC Batch Method: EPA 8260  
Analysis Description: GC/MS VOCs, RCRA  
85173763      85173771      85173946

METHOD BLANK: 85199818  
Associated Pace Samples:

85173763      85173771      85173946

### Method

### Blank

Parameter	Units	Result	PRL	Footnotes
Methylene Chloride	ug/L	ND	5	
Benzene	ug/L	ND	5	
1,2-Dichloroethane	ug/L	ND	5	
Toluene	ug/L	ND	5	
Chlorobenzene	ug/L	ND	5	
Ethylbenzene	ug/L	ND	5	
Cyclohexene (Total)	ug/L	ND	5	
Dibromofluoromethane (S)	#	96		
Toluene-d8 (S)	#	98		
4-Bromofluorobenzene (S)	#	100		

## MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 85199875 85199883

Parameter	Units	85149219	Spike Conc.	Matrix Spike Result	Sp. Dup. # Rec	Matrix Result	Spike Dup. # Rec	RPD	Footnotes
Benzene	ug/L	0	50	38.10	76.2	41.65	83.3	9	
Toluene	ug/L	0	50	43.12	86.2	44.55	89.1	3	
Chlorobenzene	ug/L	0	50	43.02	86.0	45.78	91.6	6	
Dibromofluoromethane (S)					101		99		
Toluene-d8 (S)						98	98		
4-Bromofluorobenzene (S)						90	96		

## REPORT OF LABORATORY ANALYSIS

# Pace Analytical

Pace Analytical Services, Inc.  
900 Gemini Avenue  
Houston, TX 77058

Tel: 281-488-1810  
Fax: 281-488-4661

## QUALITY CONTROL DATA

DATE: 04/01/98  
PAGE: 47

Pace Project Number: 851674  
Client Project ID: HWPW

LABORATORY CONTROL SAMPLE: 85199826

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	40	50.27	126	
Toluene	ug/L	40	46.14	115	
Chlorobenzene	ug/L	40	45.49	114	

LABORATORY CONTROL SAMPLE: 85199867

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	50	42.18	84.4	
Toluene	ug/L	50	38.20	76.4	
Chlorobenzene	ug/L	50	38.62	77.2	

LABORATORY CONTROL SAMPLE: 85200004

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	50	45.86	91.7	
Toluene	ug/L	50	42.06	84.1	
Chlorobenzene	ug/L	50	42.45	84.9	

## REPORT OF LABORATORY ANALYSIS

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Pace Project Number: 851624

Client Project ID: HWPW

## QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

ND Not Detected

NC Not Calculable

PRL Pace Reporting Limit

RD Relative Percent Difference

SD Surrogate

[1] Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid's surrogate.

# Pace Analytical

## CHAIN-OF-CUSTODY RECORD Analytical Request

Client ERM-SOUTHWEST, Inc.

Address 16300 KATY Fwy, SUITE 300  
Houston, Texas 77094

Phone (281) 579-8999

Sampled By (PRINT):

CHRISTOPHER E WENARS

Sampler Signature

Date Sampled

Christopher E Wenars - 3/3/98 - 3/4/98

Report To: Tom Pacioni

Bill To: Tom Pacioni

P.O. # / Billing Reference 422-09

Project Name / No.

Pace Client No.

Pace Project Manager

Pace Project No.

\*Requested Due Date: 3/25/98

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	PRESERVATIVES			ANALYSES REQUEST	REMARKS
						H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	VOA (HCl)		
1	HWPW-MW-01A-1SA98	1510	water	3/3/98	4 2			2	✓ ✓	
2	HWPW-MW-01A-MS-1SA98	1610	water	3/3/98	4 2			2		✓ ✓
3	HWPW-MW-01A-MSD-1SA98	1510	w	3/3/98	4 2			2		✓ ✓
4	HWPW-MW-02-1SA98	1530	w	3/3/98	4 2			2	✓ ✓	
5	HWPW-MW-03-1SA98	1615	w	3/3/98	4 2			2	✓ ✓	
6	HWPW-MW-04-1SA98	1125	w	3/3/98	4 2			2	✓ ✓	
7	HWPW-MW-05-1SA98	1218	w	3/4/98	4 2			2	✓ ✓	
8	HWPW-MW-07-1SA98	1357	w	3/4/98	4 2			2	✓ ✓	
COOLER NOS	BAILERS	SHIPMENT OUT DATE	METHOD RETURNED DATE	ITEM NUMBER	RELINQUISHED BY / AFFILIATION			ACCEPTED BY / AFFILIATION		DATE TIME
					1	C.E.Wenars / ERM		Eugene H. Butcher		3/5 1300
					2	Eugene H. Butcher				

Additional Comments

1 of 3 COCs  
(4 coolers)

CG

ORIGINAL

SEE REVERSE SIDE FOR INSTRUCTIONS

# Pace Analytical

**CHAIN-OF-CUSTODY RECORD**  
**Analytical Request**

Client ERM-SOUTHWEST, Inc.

Address 16300 KATY FREEWAY, SITE 300  
Houston, TX 77094

Phone (281) 579-8999

Sampled By (PRINT):

CHRISTOPHER E. WENNERAS

**Sampler Signature** \_\_\_\_\_ **Date Sampled** \_\_\_\_\_

*Christopher Ell Wauchoe* 3/3/98 - 3/4/98

Report To: TOM PACIONI

Bill To: Tom Pacioni

P.O. # / Billing Reference 422-04

**Project Name / No.**

Pace Client No.

Pace Project Manager

Pace Project No.

\*Requested Due Date: 3/25/98

Sampled By (PRINT): <b>CHRISTOPHER E. WENARS</b>					NO. OF CONTAINERS	PRESERVATIVES			ANALYSES REQUEST	
Sampler Signature <i>Christopher E. Wenars</i> Date Sampled <i>3/3/98 - 3/4/98</i>						UNPRESERVED	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>		VOC (KLE)
ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PAGE NO	4	2	2	2	✓✓	
1	HWPW-MW-08-1SA98	1321	W	3/4/98	4	2	2	2	✓✓	
2	HWPW-MW-09-1SA98	1021	W	3/4/98	4	2	2	2	✓✓	
3	HWPW-MW-10A-1SA98	1330	W	3/3/98	4	2	2	2	✓✓	
4	HWPW-MW-10B-1SA98	1357	W	3/3/98	4	2	2	2	✓✓	
5	HWPW-MW-11A-1SA98	1142	W	3/3/98	4	2	2	2	✓✓	
6	HWPW-MW-11B-1SA98	1225	W	3/3/98	4	2	2	2	✓✓	
7	HWPW-MW-999-1SA98	0857	W	3/4/98	4	2	2	2	✓✓	
8	HWPW-P-10-1SA98	0857	W	3/4/98	4	2	2	2	✓✓	
										REMARKS

#### Additional Comments

5i 2 of 3 cos's  
(A codas)

1	Cochran / ZPM	Exact. Recd. 3/5 1900
2	Ezra H. Bailey	

**SEE REVERSE SIDE FOR INSTRUCTIONS**

**ORIGINAL**

# Pace Analytical

**CHAIN-OF-CUSTODY RECORD**  
**Analytical Request**

Client ERM-SOUTHWEST, Inc.  
Address 16300 KATY FREEWAY, STE 300  
Houston, Texas 77094  
Phone (281) 579-8999

Report To: Tom Pacioni  
Bill To: Tom Pacioni  
P.O. # / Billing Reference 422-09  
Project Name / No.

Pace Client No. \_\_\_\_\_  
Pace Project Manager \_\_\_\_\_  
Pace Project No. \_\_\_\_\_  
\*Requested Due Date: 3/25/98

Sampled By (PRINT):  
CHRISTOPHER E. WENARS  
Sampler Signature Date Sampled

**Date Sampled**

Sampled By (PRINT): <b>CHRISTOPHER E. WELIARS</b>				NO. OF CONTAINERS	PRESERVATIVES			ANALYSES REQUEST		
Sampler Signature <i>Christopher E. Weliars</i> Date Sampled 3/3/98-3/4/98					UNPRESERVED	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>		VOA (C&E)	
ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	4	2	2	✓✓	REMARKS	
1	HWPW-P-11-1SA98	1423	w	3/4/98	4	2	2	✓✓		
2	HWPW-P-12-1SA98	1113	w	3/4/98	4	2	2	✓✓		
3	HWPW-EB-01-1SA98	1351	w	3/4/98	4	2	2	✓✓		
4	HWPW-TB-01-1SA98	1007	w	3/4/98	2	2	2	✓		
5										
6										
7										
8										
COOLER NOS	BAILERS	SHIPMENT METHOD OUT/DATE	RETURNED/DATE	ITEM NUMBER	RELINQUISHED BY / AFFILIATION			ACCEPTED BY / AFFILIATION	DATE	TIME
				1	<i>Christopher E. Weliars / ERM</i>			<i>John H. B. (JHB)</i>	3/5	1000

#### **Additional Comments**

3 of 3 cos's  
(4 cosines)

**SEE REVERSE SIDE FOR INSTRUCTIONS**

5  
N

ORIGINAL

# Pace Analytical

## CHAIN-OF-CUSTODY RECORD Analytical Request

Client ERM-SOUTHWEST, INC.  
 Address 16300 KATY Fwy. SUITE 300  
Houston, Texas 77094  
 Phone (281) 579-8999

Report To: Tom Pacioni  
 Bill To: Tom PACIONI  
 P.O. # / Billing Reference 422-09  
 Project Name / No.

Pace Client No.  
 Pace Project Manager  
 Pace Project No.  
 \*Requested Due Date: 3/25/98

Sampled By (PRINT):  
CHRISTOPHER E WENARS  
 Sampler Signature Christopher E Wenars Date Sampled 3/3/98 - 3/4/98

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	PRESERVATIVES			ANALYSES REQUEST	REMARKS
						UNPRESERVED	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>		
1	HWPW-MW-01A-1SA98	1510	water	3/3/98	4 2	2			✓ ✓	85 17376 3
2	HWPW-MW-01A-MS-1SA98	1510	water	3/3/98	4 2	2			✓ ✓	
3	HWPW-MW-01A-MSD-1SA98	1510	w	3/3/98	4 2	2			✓ ✓	↓
4	HWPW-MW-02-1SA98	1550	w	3/3/98	4 2	2			✓ ✓	85 17377 1
5	HWPW-MW-03-1SA98	1615	w	3/3/98	4 2	2			✓ ✓	789
6	HWPW-MW-04-1SA98	1125	w	3/3/98	4 2	2			✓ ✓	797
7	HWPW-MW-05-1SA98	1218	w	3/4/98	4 2	2			✓ ✓	805
8	HWPW-MW-07-1SA98	1357	w	3/4/98	4 2	2			✓ ✓	85 173813 Time 0807 on bottles

COOLER NOS.	BAILERS	SHIPMENT OUT/DATE	METHOD RETURNED/DATE	ITEM NUMBER	RELINQUISHED BY / AFFILIATION	ACCEPTED BY / AFFILIATION	DATE	TIME
					<i>Tom Pacioni</i>	<i>C. S. Pace</i>		

Additional Comments

1 of 3 COCs  
 (4 coolers)

SEE REVERSE SIDE FOR INSTRUCTIONS

# Pace Analytical

**CHAIN-OF-CUSTODY RECORD**  
Analytical Request

Client ERM-SOUTHWEST, Inc.  
 Address K200 KATY FREEWAY, STE 300  
Houston, TX 77094  
 Phone (281) 579-8999

Report To: Tom PACIONI  
 Bill To: Tom PACIONI  
 P.O. # / Billing Reference 422-09  
 Project Name / No.

Pace Client No.  
 Pace Project Manager  
 Pace Project No.  
 \*Requested Due Date: 2/25/98

Sampled By (PRINT):  
CHRISTOPHER E. WENNAR  
 Sampler Signature Christopher E. Wennar Date Sampled 3/3/98 - 3/4/98

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO	NO. OF CONTAINERS	PRESERVATIVES			ANALYSES REQUEST	REMARKS	
						UNPRESERVED	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>			
1	HWPW-MW-08-15A98	1321	W	3/4/98	4	2		2	✓✓	85 17383 9	
2	HWPW-MW-09-15A98	1021	W	3/4/98	4	2		2	✓✓	84 7	
3	HWPW-MW-10A-15A98	1330	W	3/3/98	4	2		2	✓✓	85 4	
4	HWPW-MW-10B-15A98	1357	W	3/3/98	4	2		2	✓✓	86 2	
5	HWPW-MW-11A-15A98	1142	W	3/3/98	4	2		2	✓✓	870	
6	HWPW-MW-11B-15A98	1245	W	3/3/98	4	2		2	✓✓	896	
7	HWPW-MW-999-15A98	0857	W	3/4/98	4	2		2	✓✓	904	
8	HWPW-P-10-15A98	0867	W	3/4/98	4	2		2	✓✓	900	
COOLER NOS.		BAILERS		SHIPMENT METHOD		ITEM NUMBER	RELINQUISHED BY / AFFILIATION		ACCEPTED BY / AFFILIATION	DATE	TIME
		OUT/DATE		RETURNED/DATE							

Additional Comments

2 of 3 COS's  
 (1 cooler)

1 Christopher E. Wennar / ERM Project Manager 3/5- 10:00  
 2 Christopher H. Boring / Analytical Testing 3/5- 10:00

SEE REVERSE SIDE FOR INSTRUCTIONS

# Pace Analytical

## CHAIN-OF-CUSTODY RECORD Analytical Request

Client ERM-SOUTHWEST, INC.  
 Address 16300 KATY FREEWAY, SITE 3(X)  
Houston, Texas 77094  
 Phone (281) 579-8999

Report To: Tom Pacioni  
 Bill To: Tom Pacioni  
 P.O. # / Billing Reference A22-09  
 Project Name / No.

Pace Client No.  
 Pace Project Manager  
 Pace Project No.  
 \*Requested Due Date: 3/25/98

Sampled By (PRINT):  
CHRISTOPHER E. (C)ENAS

Sampler Signature Christopher E. (C)ENAS Date Sampled 3/3/98 - 3/4/98

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	PRESERVATIVES			ANALYSES REQUEST	REMARKS	
						H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	VOA (X2)			
1	HWPW-P-11-1SA98	1423	W	3/4/98	4	2		2	✓✓	8517393 8	
2	HWPW-P-12-1SA98	1113	W	3/4/98	4	2		2	✓✓	946	
3	HWPW-EB-01-1SA98	1351	W	3/4/98	4	2		2	✓✓	953	
4	HWPW-TB-01-1SA98	1007	W	3/4/98	2			2	✓	961	
5											
6											
7											
8											
COOLER NOS		BAILERS	SHIPMENT METHOD		ITEM NUMBER	RELINQUISHED BY / AFFILIATION			ACCEPTED BY / AFFILIATION	DATE	TIME
			OUT/DATE	RETURNED/DATE	1	<u>Christopher E. (C)ENAS - ERM</u>			<u>John H. Boley</u>	3/5	1300
					2	<u>Christopher E. (C)ENAS - ERM</u>			<u>John H. Boley</u>	3/5	1430

Additional Comments

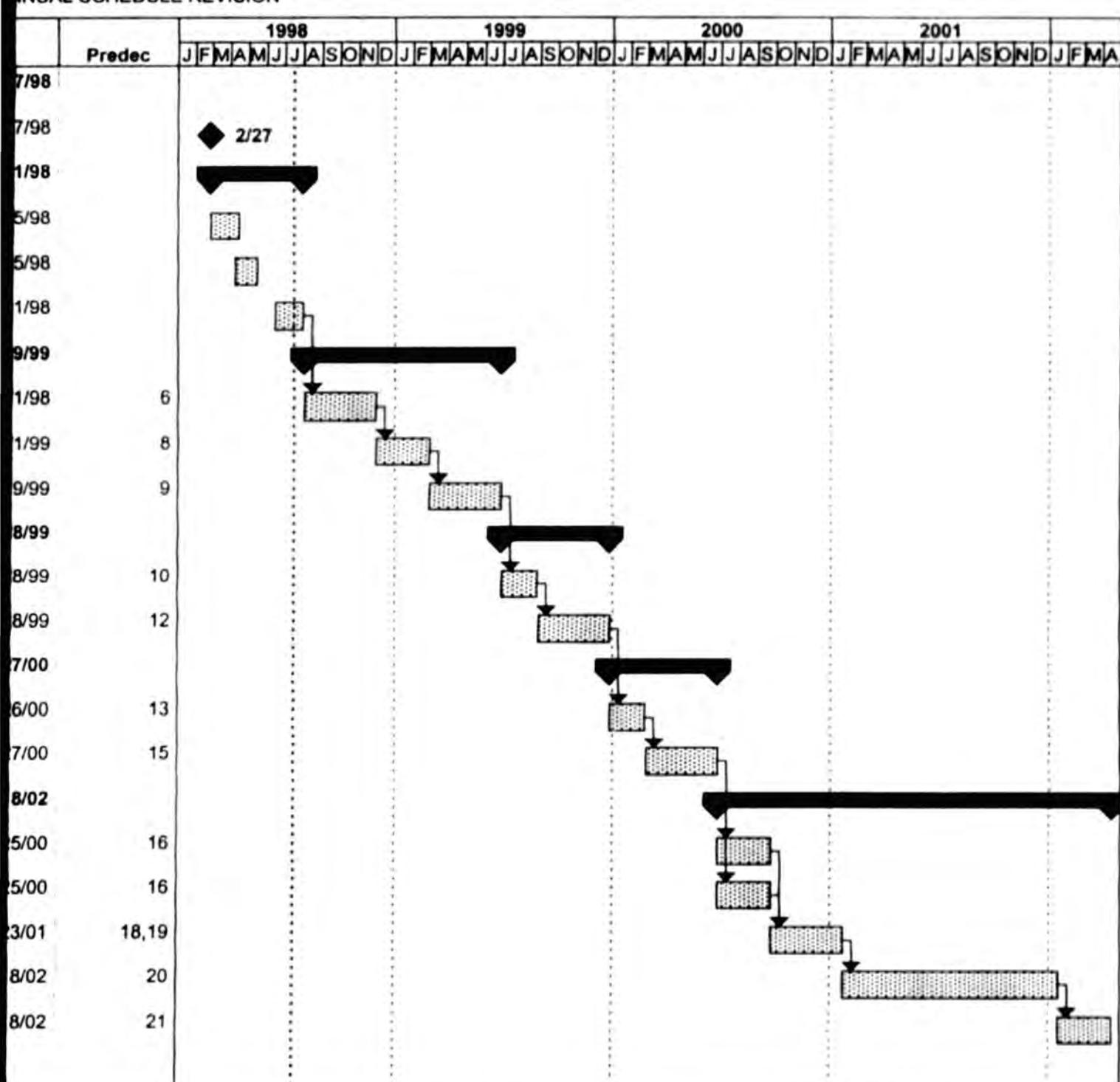
55  
2

3 of 3 coolers  
(4 coolers)


SEE REVERSE SIDE FOR INSTRUCTIONS

COMBINED EOC/RFI SEMI-ANALYSIS					
ID	Task Name/Permit or CP Section No.		Duration	Start	Finish
1	<b>RFI/EOC Phase 2-A Investigation Report (Permit §VIII.I. and CP §VIII.E.)</b>		0d	2/27/98	2/27/98
2	Submit Phase 2-A Assessment Report to TNRCC		0d	2/27/98	2/27/98
3	<b>RFI/EOC Phase 2-B Preparation (Permit §VIII.I.)</b>		112d	2/27/98	7/3/98
4	Review Risk-based Assessment Approach		35d	2/27/98	4/1/98
5	Prepare RFI/EOC Phase 2-B Scope of Work		27d	4/9/98	5/1/98
6	Arrange for Off-site Access for Investigation		35d	6/15/98	7/3/98
7	<b>RFI/EOC Phase 2-B Implementation (Permit §VIII.D. and CP §VIII.)</b>		236d	8/3/98	6/2/99
8	Complete Phase 2-B RFI/EOC		120ed	8/3/98	12/1/98
9	Submit Phase 2-B Assessment Report to TNRCC		90ed	12/1/98	3/1/99
10	TNRCC Review Process		120ed	3/1/99	6/2/99
11	<b>Risk Assessment (Permit §VIII.I.)</b>		130d	6/29/99	12/2/99
12	Submit RFI Risk Assessment		60ed	6/29/99	8/2/99
13	TNRCC Review Process		120ed	8/30/99	12/2/99
14	<b>Corrective Measures Study (Permit §VIII.I. and CP §IX.)</b>		131d	12/28/99	6/2/00
15	Submit Corrective Measures Study		60ed	12/28/99	2/2/00
16	TNRCC Review Process		120ed	2/28/00	6/2/00
17	<b>Corrective Measures Implementation (Permit §VIII.J. and CP §X.)</b>		473d	6/27/00	4/1/01
18	Submit Proposed Permit Modification		90ed	6/27/00	9/7/00
19	Submit Corrective Measures Implementation Work Plan		90ed	6/27/00	9/7/00
20	TNRCC Review Process		120ed	9/25/00	1/1/01
21	Perform Corrective Action		360ed	1/23/01	1/1/01
22	Submit Corrective Measures Report		90ed	1/18/02	4/1/02
23					
Project: Date: 7/15/98		Task Progress	 	Milestone Summary	 

## ANUAL SCHEDULE REVISION



Rolloed Up Task [Hatched Bar]

Rolloed Up Progress [Solid Black Bar]

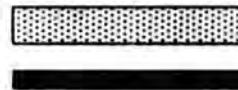
Rolloed Up Milestone ◆

## COMBINED EOC/RFI SEMI-A

ID	Task Name/Permit or CP Section No.	Duration	Start	Finis
24	Compliance Activities {Permit §IV.C. and CP §VI.}	770d	1/7/98	12/31/98
25	Impoundment Inspections (Weekly)	770d	1/7/98	12/31/98
180	Water Level Measurements (Monthly)	740d	1/21/98	11/20/98
216	Monitor Well Inspections (Quarterly)	658d	3/18/98	9/17/98
228	Ground Water Sampling (Semiannual)	659d	3/18/98	9/17/98
235				
236				
237	Post-Closure Care Reporting 1997 through 2000	656d	1/21/98	7/20/99
238	Semiannual Report - January 21, 1998 {CP §VII.B.2.}	0d	1/21/98	1/21/98
239	Submit Report to TNRCC	0d	1/21/98	1/21/98
240	1997 Annual Report - January 25, 1998 {Permit §V.F. and §III.B.1}	1d	1/25/98	1/25/98
241	Semiannual Report - July 21, 1998 {CP §VII.B.2.}	87d	3/20/98	7/20/98
242	Perform Data Evaluation	60ed	3/20/98	5/19/98
243	Submit Report to TNRCC	63ed	5/19/98	7/17/98
244	Semiannual Report - January 21, 1999 {CP §VII.B.2.}	89d	9/18/98	1/20/99
245	Perform Data Evaluation	60ed	9/18/98	11/17/98
246	Submit Report to TNRCC	65ed	11/17/98	1/15/99
247	1998 Annual Report - January 25, 1999 {Permit §V.F. and §III.B.1}	1d	1/25/99	1/25/99
248	Semiannual Report - July 21, 1999 {CP §VII.B.2.}	88d	3/19/99	7/17/99
249	Perform Data Evaluation	60ed	3/19/99	5/18/99
250	Submit Report to TNRCC	64ed	5/18/99	7/17/99
251	Semiannual Report - January 21, 2000 {CP §VII.B.2.}	91d	9/17/99	1/15/00
252	Perform Data Evaluation	60ed	9/17/99	11/17/99

Project:  
Date: 7/15/98

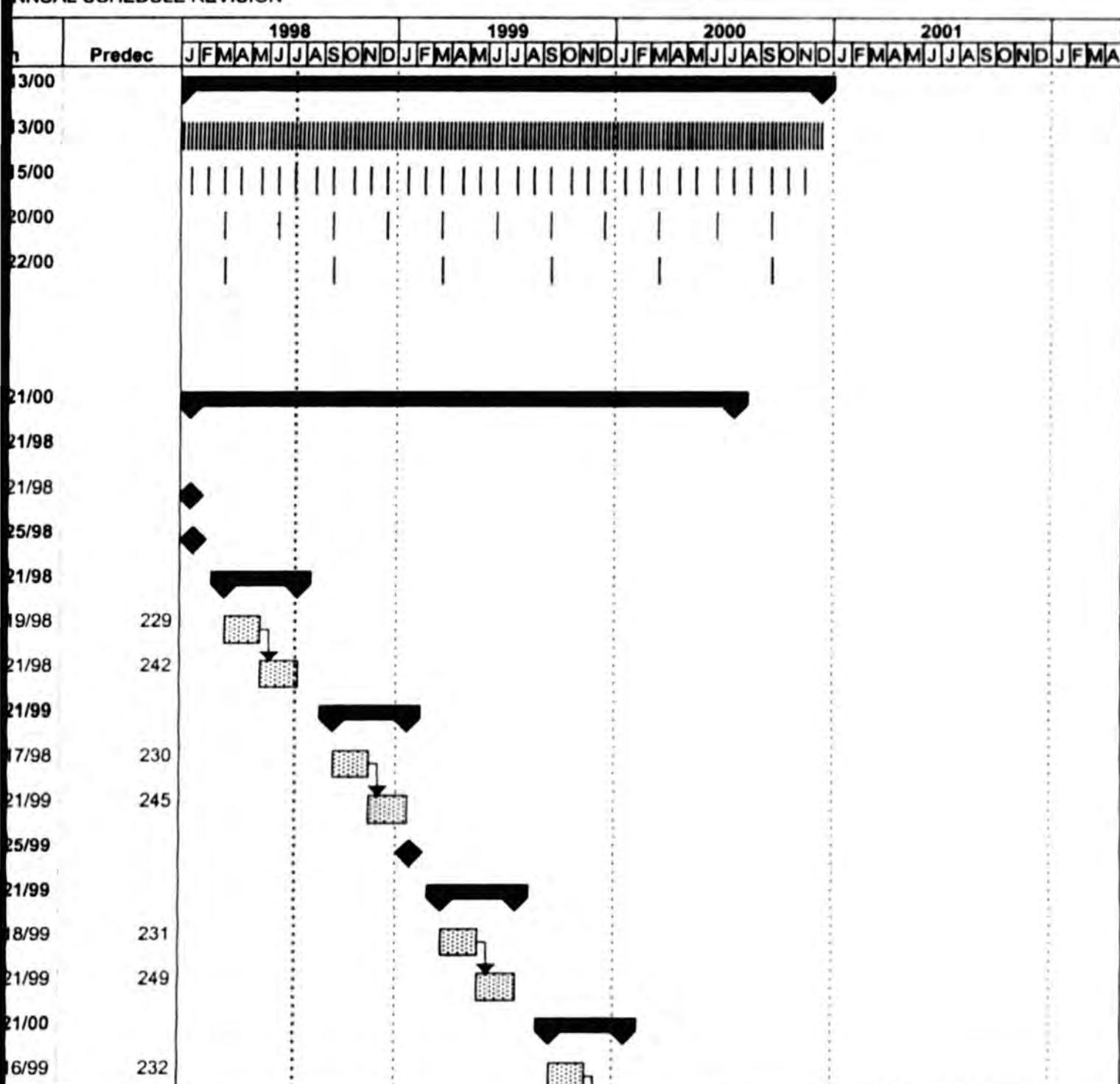
Task  
Progress



Milestone  
Summary



## ANNUAL SCHEDULE REVISION



Rolled Up Task



Rolled Up Progress



Rolled Up Milestone

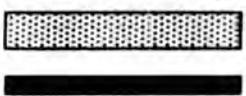


## COMBINED EOC/RFI SEMI-A

ID	Task Name/Permit or CP Section No.	Duration	Start	Finish
253	Submit Report to TNRCC	66ed	11/16/99	1/1/00
254	1999 Annual Report - January 25, 1999 {Permit §V.F. and §III.B.1}	1d	1/25/00	1/25/00
255	Semiannual Report - July 21, 2000 {CP §VII.B.2.}	91d	3/17/00	7/21/00
256	Perform Data Evaluation	60ed	3/17/00	5/16/00
257	Submit Report to TNRCC	66ed	5/16/00	7/21/00

Project:  
Date: 7/15/98

Task  
Progress

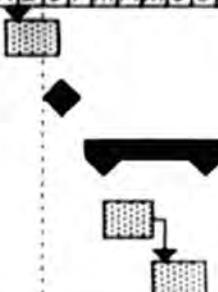


Milestone  
Summary



## ANNUAL SCHEDULE REVISION

n	Predec	1998			1999			2000			2001														
		J	F	M	A	M	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J
21/00	252																								
25/00																									
21/00																									
16/00	233																								
21/00	256																								



Rolled Up Task



Rolled Up Progress



Rolled Up Milestone

